CMT-M70/M70K

SERVICE MANUAL

Ver 1.0 2002.02

US Model
Canadian Model
AEP Model
UK Model
Australian Model
CMT-M70
E Model
CMT-M70/M70K

- CMT-M70/M70K are composed of following models.
  As for the service manual, it is issued for each component model, then, please refer to them.

COMPONENT MODEL NAME

	CMT-M70	CMT-M70K
COMPACT DISC DECK RECEIVER SYSTEM	HCD-M70	
SPEAKER SYSTEM	SS-CM70	

SPECIFICATIONS

Power requirements
North American model: 120 V AC, 60 Hz
European model: 230 V AC, 50/60 Hz
Mexican model: 120 V AC, 60 Hz
Australian model: 230 V AC, 50/60 Hz
Thailand model: 220 V AC, 50/60 Hz
Other model: 110 - 120 V or 220 - 240 V AC, 50/60 Hz
Adjustable with voltage selector

Power consumption
European model: See the nameplate
0.5 W (in the standby mode)
Other model: See the nameplate

Dimensions (w/h/d): Approx. 159 × 217 × 315 mm incl. projecting parts and controls

Mass: Approx. 4.5 kg

Supplied accessories: Remote Commander (1)
AM loop antenna (1)
FM wire antenna (1)
Batteries (2)

Design and specifications are subject to change without notice.

ACCESSORIES

Part No.	Description	Remark
1-477-239-11	REMOTE COMMANDER (RM-S171)	
1-501-374-11	ANTENNA, LOOP (AM)	
1-501-659-61	ANTENNA (FM) (M70:US, CND, MX, SP, TH)	
1-754-060-11	ANTENNA (FM) (M70:AEP, UK, AUS/M70K)	
⚠1-569-008-21	ADAPTOR, CONVERSION 2P (M70:SP)	
4-230-866-01	COVER (BATTERY) (for RM-S171)	
4-239-398-11	OPERATING INSTRUCTIONS (ENGLISH) (M70:US, CND, AEP, UK, AUS, SP)	
4-239-398-21	OPERATING INSTRUCTIONS (FRENCH, SPANISH) (M70:AEP, SP)	
4-239-398-31	OPERATING INSTRUCTIONS (FRENCH) (M70:US, CND)	
4-239-398-41	OPERATING INSTRUCTIONS (SPANISH) (M70:MX)	
4-239-398-51	OPERATING INSTRUCTIONS (GERMAN, DUTCH, ITALIAN, SWEDISH, POLISH) (M70:AEP)	
4-239-398-61	OPERATING INSTRUCTIONS (TRADITIONAL CHINESE) (M70:SP)	
4-239-399-11	OPERATING INSTRUCTIONS (DANISH, FINNISH) (M70:AEP)	
4-239-399-21	OPERATING INSTRUCTIONS (PORTUGUESE) (M70:AEP)	
4-239-399-31	OPERATING INSTRUCTIONS (RUSSIAN) (M70:AEP)	
4-239-400-11	OPERATING INSTRUCTIONS (GREEK) (M70:AEP)	
4-239-400-21	OPERATING INSTRUCTIONS (HUNGARIAN, CZECH) (M70:AEP)	
4-239-400-31	OPERATING INSTRUCTIONS (TURKISH) (M70:AEP)	
4-239-400-41	OPERATING INSTRUCTIONS (SLOVAKIAN) (M70:AEP)	
4-240-943-11	OPERATING INSTRUCTIONS (KOREAN) (M70K)	
4-240-943-21	OPERATING INSTRUCTIONS (ENGLISH, THAI) (M70:TH)	

- Abbreviation
  AUS : Australian model
  CND : Canadian model
  MX : Mexican model
  SP : Singapore model
  TH : Thai model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MICRO Hi-Fi COMPONENT SYSTEM

9-873-632-01 **Sony Corporation**
2002B0500-1 **Home Audio Company**
© 2002.02
Published by Sony Engineering Corporation

SONY

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2002.02	New

HCD-M70

SERVICE MANUAL

Ver 1.1 2002.03

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

HCD-M70 is the Amplifier, CD player, Tape Deck and Tuner section in CMT-M70/M70K.

CD Section	Model Name Using Similar Mechanism	HCD-CP100
	CD Mechanism Type	CDM55F-K6BD41A
	Optical Pick-up Name	KSS-213DCP
TAPE Section	Model Name Using Similar Mechanism	NEW

SPECIFICATIONS

Amplifier section

For the U.S. model

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 6-ohm loads, both channels driven, from 70 - 20,000 Hz; rated 18 watts per channel minimum RMS power, with no more than 0.9% total harmonic distortion from 250 milliwatts to rated output.

North American model:

Continuous RMS power output (reference): 20 + 20 W (6 ohms at 1 kHz, 10% THD)

Total harmonic distortion less than 0.07% (6 ohms at 1 kHz, 12 W)

European model:

DIN power output (rated): 15 + 15 W (6 ohms at 1 kHz, DIN)

Continuous RMS power output (reference): 20 + 20 W (6 ohms at 1 kHz, 10% THD)

Music power output (reference): 40 + 40 W

Other models:

The following measured at 230 V AC, 60 Hz

DIN power output (rated): 15 + 15 W (6 ohms at 1 kHz, DIN)

Continuous RMS power output (reference): 18 + 18 W (6 ohms at 1 kHz, 10% THD)

The following measured at 220 V AC, 60 Hz

DIN power output (rated): 12 + 12 W (6 ohms at 1 kHz, DIN)

Continuous RMS power output (reference): 15 + 15 W (6 ohms at 1 kHz, 10% THD)

Inputs

AUDIO IN MD (VIDEO) (phono jacks): Sensitivity 500/250 mV, impedance 47 kilohms

Outputs

OPTICAL DIGITAL OUT (CD): Optical

PHONES: Accepts headphones with an impedance of 8 ohms or more

SPEAKER: 6 ohms

CD player section

System	Compact disc and digital audio system
Laser	Semiconductor laser (λ = 780 nm) Emission duration: continuous
Wavelength	780 - 790 nm
Frequency response	2 Hz - 20 kHz (±0.5 dB)

Tape player section

Recording system	4-track 2-channel stereo
Frequency response	50 - 13,000 Hz (±3 dB), using a Sony TYPE I cassette

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	
North American model:	87.5 - 108.0 MHz (100-kHz step)
Other models:	87.5 - 108.0 MHz (50-kHz step)
Antenna	FM wire antenna
Antenna terminals	75 ohms unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range	
Pan-American model:	530 - 1,710 kHz (with the tuning interval set at 10 kHz) 531 - 1,710 kHz (with the tuning interval set at 9 kHz)
European model:	531 - 1,602 kHz (with the tuning interval set at 9 kHz)

– Continued on next page –

MICRO Hi-Fi COMPONENT SYSTEM

9-873-633-02
2002C0500-1
© 2002.03

Sony Corporation
Home Audio Company
Published by Sony Engineering Corporation

SONY®

Other models:	530 - 1,710 kHz (with the tuning interval set at 10 kHz) 531 - 1,602 kHz (with the tuning interval set at 9 kHz)
Antenna	AM loop antenna, external antenna terminal
Intermediate frequency	450 kHz

General

Power requirements	
North American model:	120 V AC, 60 Hz
European model:	230 V AC, 50/60 Hz
Mexican model:	120 V AC, 60 Hz
Australian model:	230 V AC, 50/60 Hz
Thailand model:	220 V AC, 50/60 Hz
Other models:	110 - 120 V or 220 - 240 V AC, 50/60 Hz Adjustable with voltage selector
Power consumption	
European model:	See the nameplate 0.5 W (in the standby mode)
Other models:	See the nameplate
Dimensions (w/h/d)	Approx. 159 × 217 × 315 mm incl. projecting parts and controls
Mass	Approx. 4.5 kg

Design and specifications are subject to change without notice.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

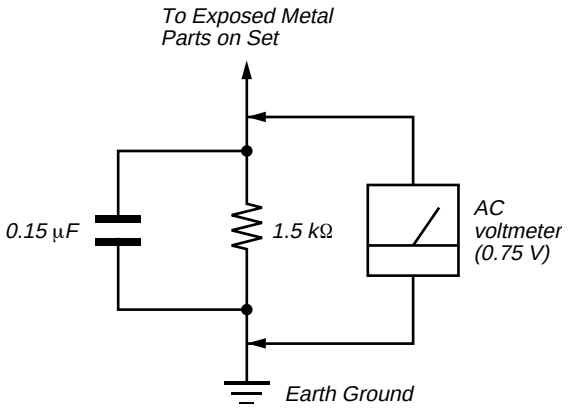


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

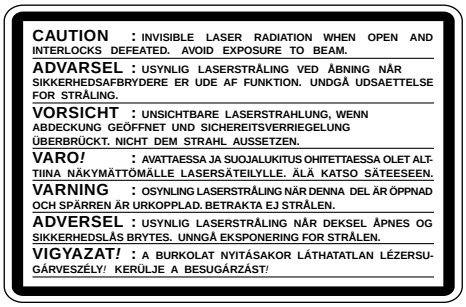
LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

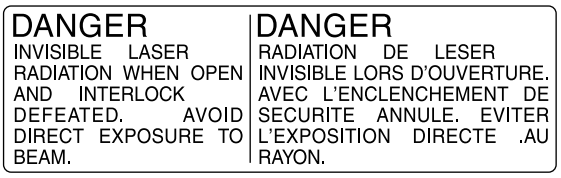
CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

The following caution label is located inside the unit.


CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.
VORSICHT : UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET UND SICHEREITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING : OSYNLING LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVERSEL : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VIGYAZAT! : A BURKOLAT NYITÁSAKOR LÁTHATATLAN LÉZERSUGÁRVESZÉLY! KERÜLJE A BESUGÁRZÁST!


DANGER
INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.
DANGER
RADIATION DE LESER INVISIBLE LORS D'OUVERTURE. AVEC L'ENCLENCHEMENT DE SECURITE ANNULE. EVITER L'EXPOSITION DIRECTE .AU RAYON.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

TABLE OF CONTENTS

1. SERVICING NOTES 4

2. GENERAL 5

3. DISASSEMBLY
3-1. Disassembly Flow 6
3-2. Panel (Side) (L), Panel (Side) (R) 7
3-3. Top Panel Section 7
3-4. Mechanical Deck (Tape) 8
3-5. Front Panel Section 8
3-6. Back Panel Assy 9
3-7. MAIN Board 9
3-8. CD Mechanism Deck (CDM55F-K6BD41A) 10
3-9. Base Unit (BU-K6BD41A) 11
3-10. Loading Board 11
3-11. Cam (CDM55) 12

4. TEST MODE 13

5. ELECTRICAL ADJUSTMENTS
Deck Section 13
CD Section 13

6. DIAGRAMS
6-1. Block Diagram – CD SERVO Section – 14
6-2. Block Diagram – TUNER/TAPE DECK Section – 15
6-3. Block Diagram – MAIN Section – 16
6-4. Note for Printed Wiring Boards and Schematic Diagrams 17
6-5. Printed Wiring Board – CD Board – 18
6-6. Schematic Diagram – CD Board – 19
6-7. Printed Wiring Board – TC Board – 20
6-8. Schematic Diagram – TC Board – 21
6-9. Schematic Diagram – MAIN Board (1/2) – 22
6-10. Schematic Diagram – MAIN (2/2)/JACK Boards – 23
6-11. Printed Wiring Boards – MAIN/JACK Boards – 24
6-12. Printed Wiring Boards – CONTROL/LOADING/VIDEO Boards – 26
6-13. Schematic Diagram – CONTROL/LOADING/SWITCH (1/2)/VIDEO Boards – 27
6-14. Printed Wiring Board – SWITCH Board – 28
6-15. Schematic Diagram – SWITCH Board (2/2) – 29
6-16. Printed Wiring Board – POWER Board – 30
6-17. Schematic Diagram – POWER Board – 31
6-18. IC Pin Function Description 34

7. EXPLODED VIEWS
7-1. Panel (Side) Section 36
7-2. Front Panel Section 37
7-3. Top Panel Section 38
7-4. Chassis Section-1 39
7-5. Chassis Section-2 40
7-6. CD Mechanism Deck (CDM55F-K6BD41A) 41
7-7. Base Unit (BU-K6BD41A) 42

8. ELECTRICAL PARTS LIST 43

SECTION 1
SERVICING NOTES

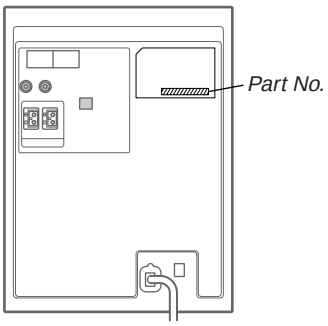
NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

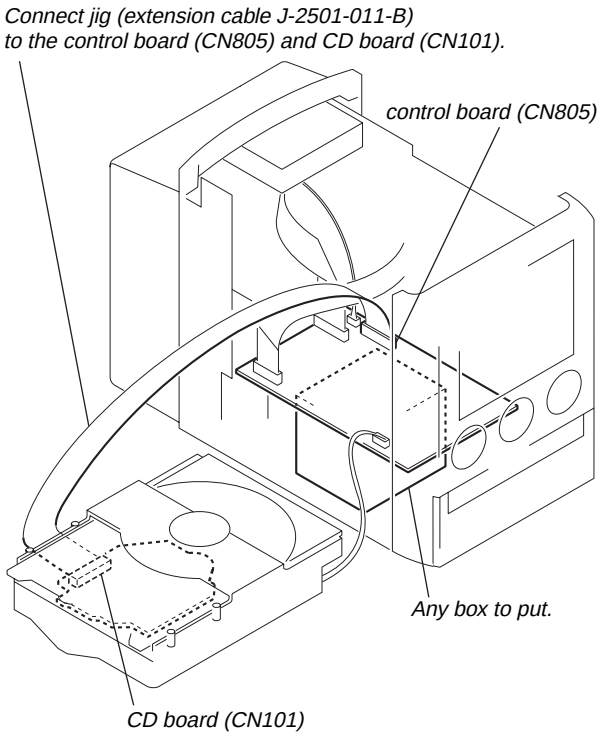
MODEL IDENTIFICATION
– Rear Panel –



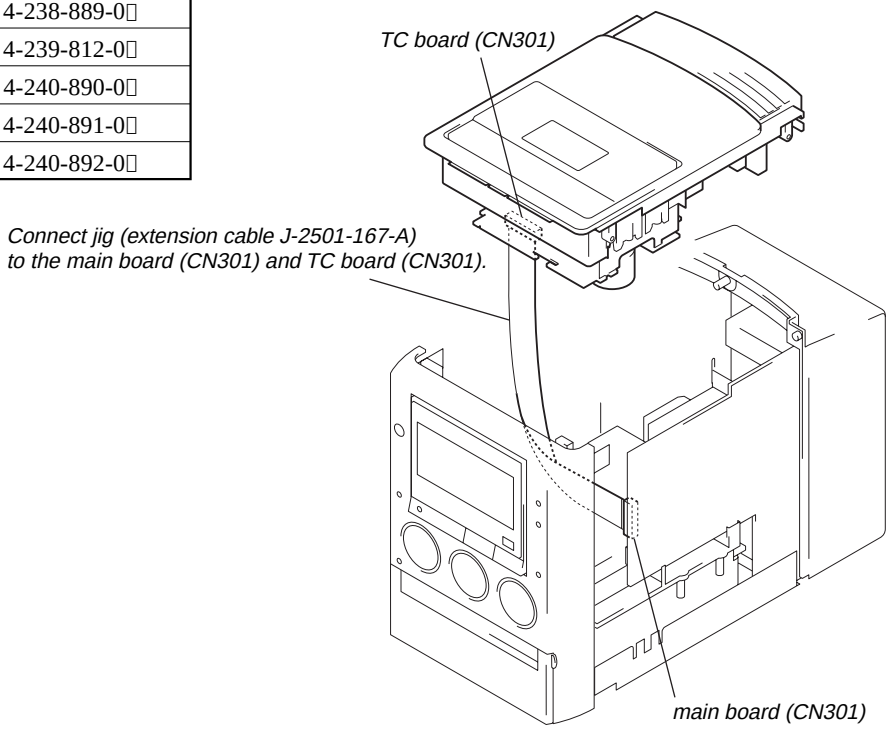
Model Name	Part No.
AEP and UK models	4-238-716-0
US and Canadian models	4-238-888-0
Singapore model	4-238-889-0
Mexican model	4-239-812-0
Australian model	4-240-890-0
Korean model	4-240-891-0
Thai model	4-240-892-0

SERVICE POSITION

In checking the CD block, prepare jig (extension cable J-2501-011-B: 1.25 mm Pitch, 19 cores, Length 300 mm).


Connect jig (extension cable J-2501-011-B)
to the control board (CN805) and CD board (CN101).
control board (CN805)
Any box to put.
CD board (CN101)

In checking the tape deck section, prepare jig (extension cable J-2501-167-A: 1.25 mm Pitch, 17 cores, Length 300 mm).



SECTION 2
GENERAL

This section is extracted from instruction manual.

List of Button Locations and Reference Pages

How to use this page

Use this page to find the location of buttons and other parts of the system that are mentioned in the text.

Illustration number ↓
PLAY MODE 15 (9, 13, 14)
↑ Name of button/part ↑ Reference page

Main unit

ALPHABETICAL ORDER

A – F

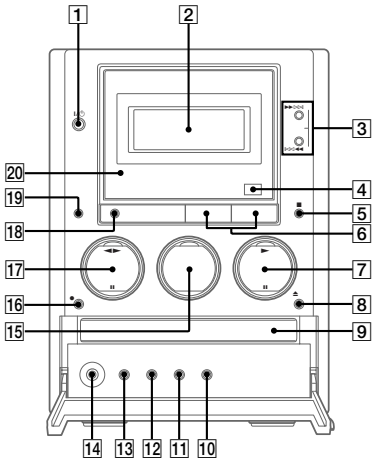
CD disc tray 9 (8)
CD SYNCHRO 11 (13, 14)
CD SYNCHRO indicator 20 (14)
CD ► 7 (8, 9)
CD ❚❚ 7 (8)
DIRECTION 10 (12–14)
Display window 2
DSG 18 (15, 18)
FUNCTION 19 (8–14, 18)

P – V

PHONES jack 14
PLAY MODE/TUNING MODE 13 (8–11, 14)
Remote sensor 4
REPEAT/FM MODE 12 (8, 11)
TAPE ◄/► 17 (12–14)
TAPE ❚❚ 17 (12–14)
TUNER AM 15 (9–11)
TUNER FM 15 (9–11)
TUNING +/– 3 (9–11)
VOLUME +/– 6 (17)

BUTTON DESCRIPTIONS

I/⏻ (power) 1 (7, 10, 15, 17)
◄◄/►► 3 (8, 12)
I◄◄/►►I 3 (8, 9, 14)
■ 5 (8, 12, 13)
⏏ CD 8 (8)
● REC 16 (13)



Remote Control

ALPHABETICAL ORDER

A – M

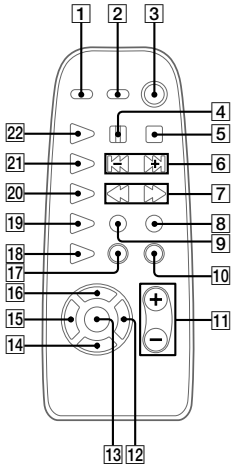
CD REPEAT 18 (8)
CD ► 22 (8, 9)
DIR MODE 19 (12–14)
DISPLAY 2 (11, 16)
DSG 1 (15)
ENTER 13 (7, 10, 14, 15, 17)
FM MODE 9 (11)
FUNCTION 17 (8–14, 18)
MEMORY 16 (10)

S – V

SLEEP 14 (16)
TAPE ◄/► 20 (12–14)
TIMER SELECT 12 (15, 17)
TIMER SET 15 (7, 14, 17)
TUNER/BAND 21 (9–11)
TUNING MODE/PLAY MODE 10 (8–11, 14)
VOL +/– 11 (17)

BUTTON DESCRIPTIONS

❚❚ 4 (8, 12, 14)
■ 5 (8, 9, 12–14)
I◄◄ /►►I 6 (7–10, 14, 15, 17)
◄◄/►► 7 (8–12)
I/⏻ (power) 3 (7, 15, 17)
● REC 8 (13)



Setting the clock

1 **Turn on the system.**

2 **Press TIMER SET on the remote.**

3 **Press I◄◄/►►I on the remote repeatedly to set the hour.**

4 **Press ENTER on the remote.**
The minute indication flashes.

5 **Press I◄◄/►►I on the remote repeatedly to set the minute.**

6 **Press ENTER on the remote.**
The clock will begin operating.

To adjust the clock

1 Press TIMER SET on the remote.

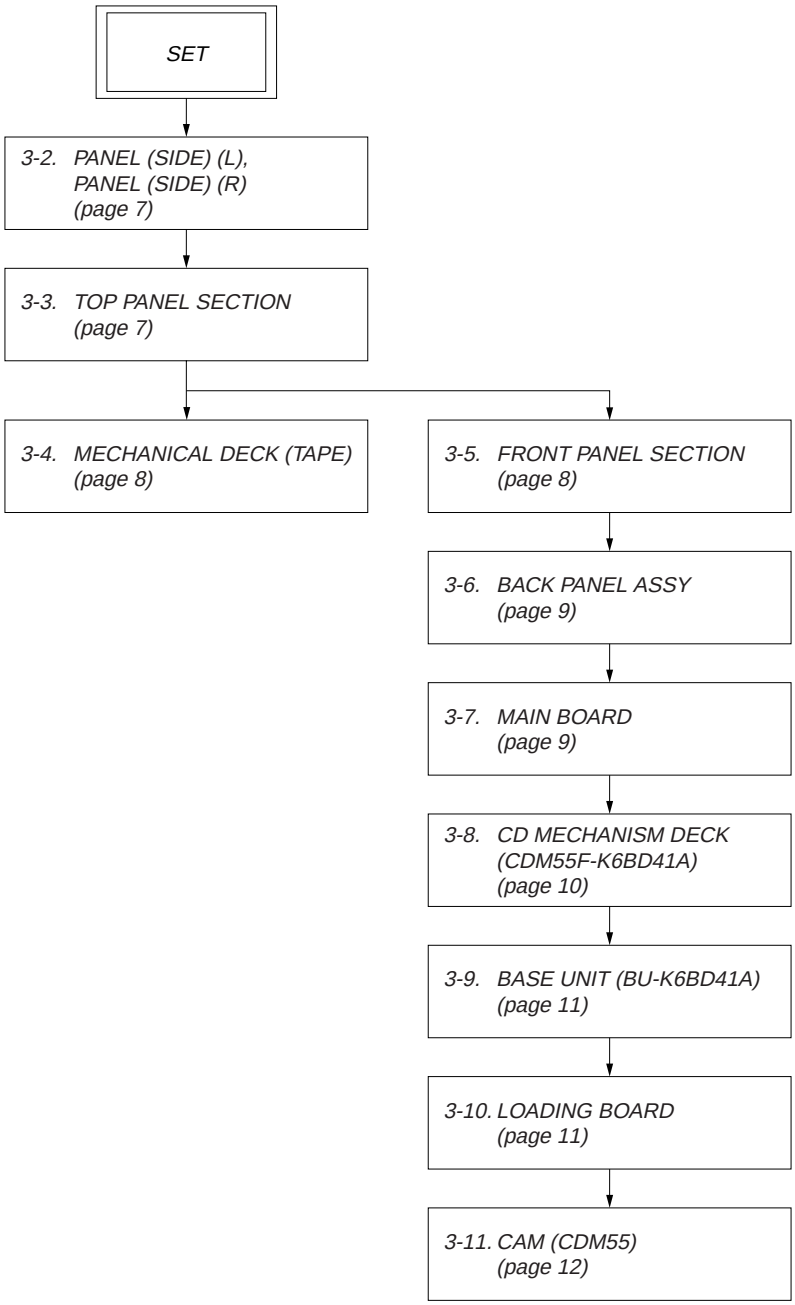
2 Press I◄◄ or ►►I on the remote to select "SET CLOCK", then press ENTER on the remote.

3 Do the same procedures as step 3 to 6 above.

SECTION 3
DISASSEMBLY

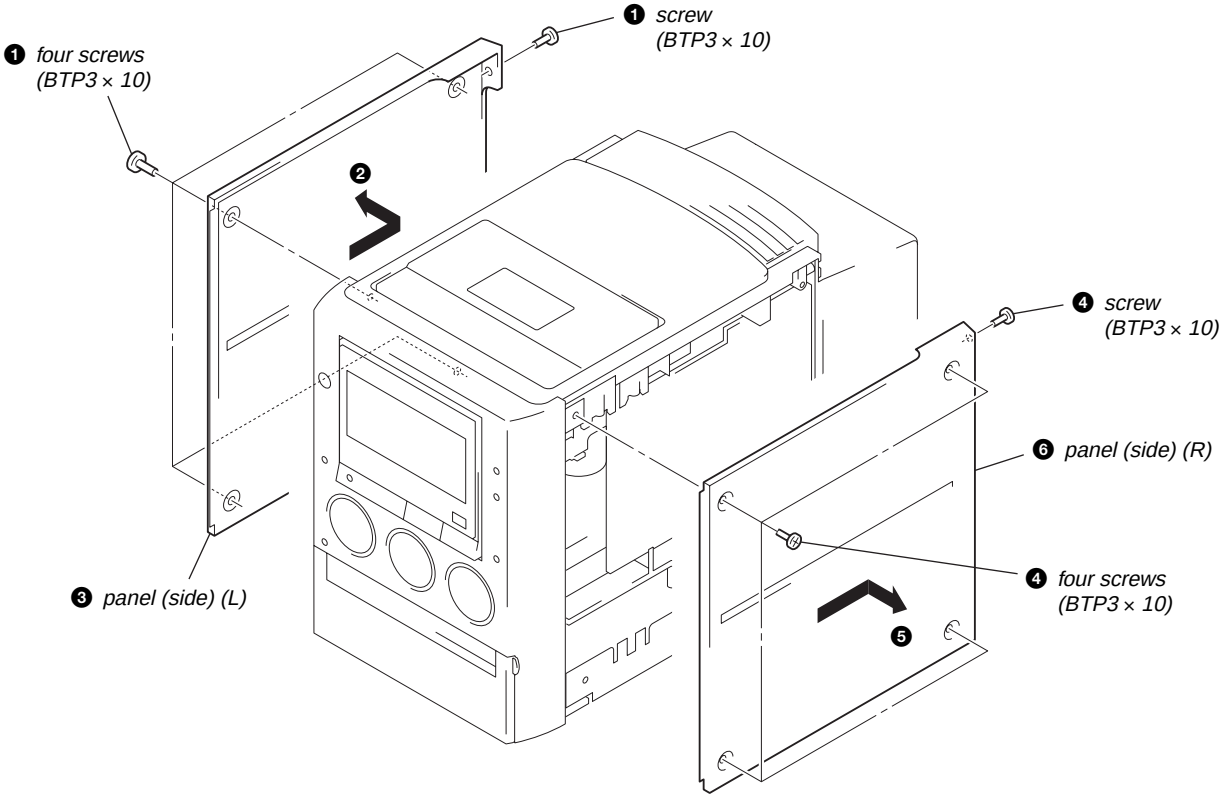
• This set can be disassembled in the order shown below.

3-1. DISASSEMBLY FLOW

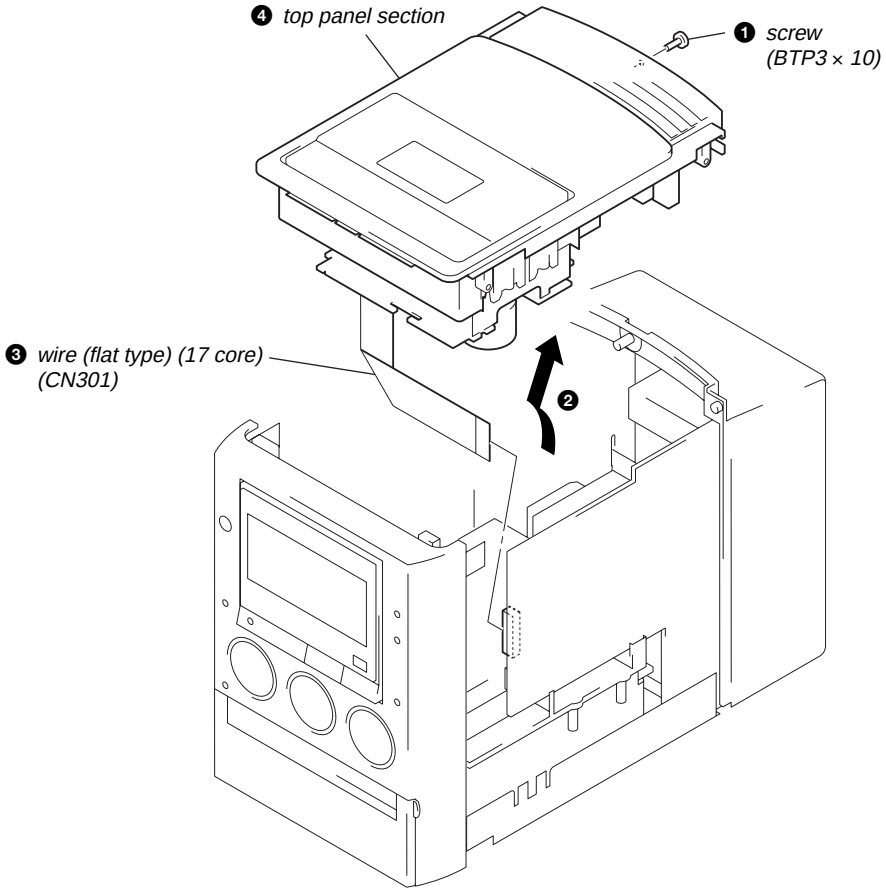

SET
3-2. PANEL (SIDE) (L), PANEL (SIDE) (R) (page 7)
3-3. TOP PANEL SECTION (page 7)
3-4. MECHANICAL DECK (TAPE) (page 8)
3-5. FRONT PANEL SECTION (page 8)
3-6. BACK PANEL ASSY (page 9)
3-7. MAIN BOARD (page 9)
3-8. CD MECHANISM DECK (CDM55F-K6BD41A) (page 10)
3-9. BASE UNIT (BU-K6BD41A) (page 11)
3-10. LOADING BOARD (page 11)
3-11. CAM (CDM55) (page 12)

Note: Follow the disassembly procedure in the numerical order given.

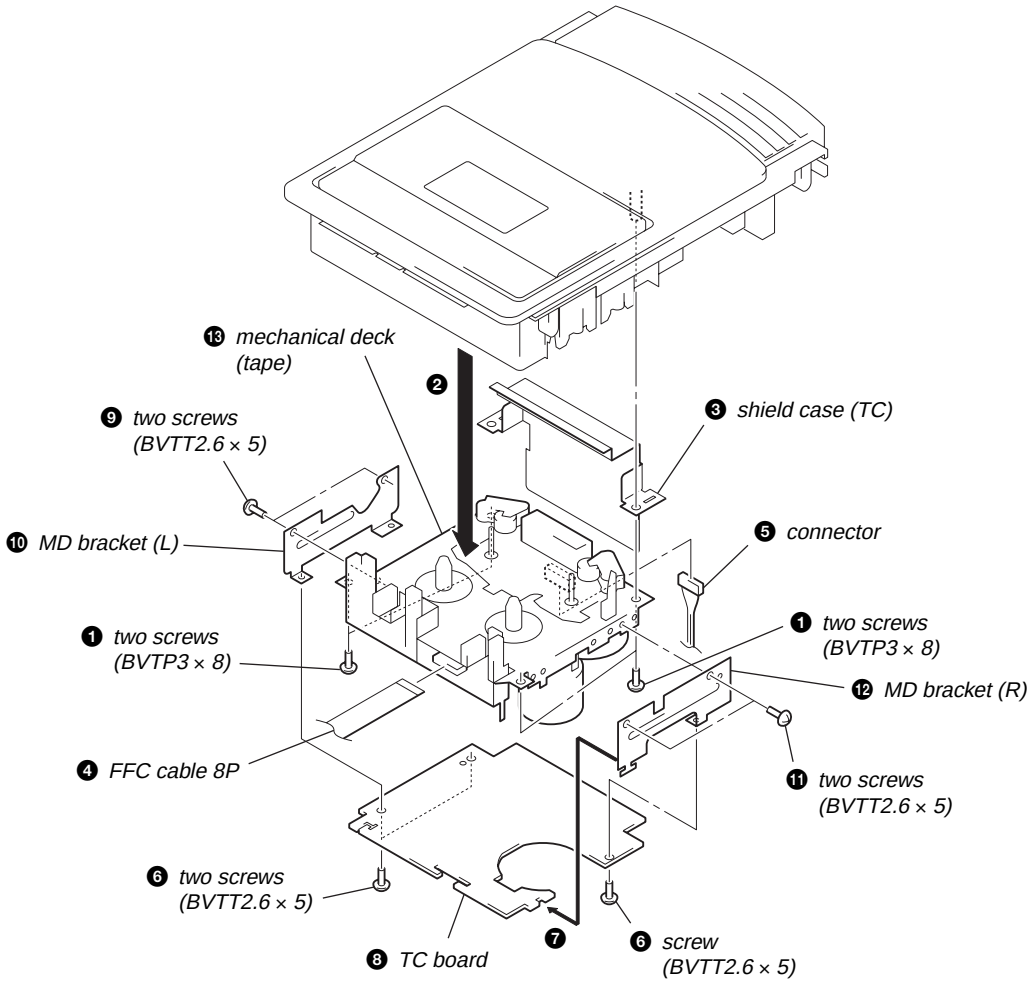
3-2. PANEL (SIDE) (L), PANEL (SIDE) (R)



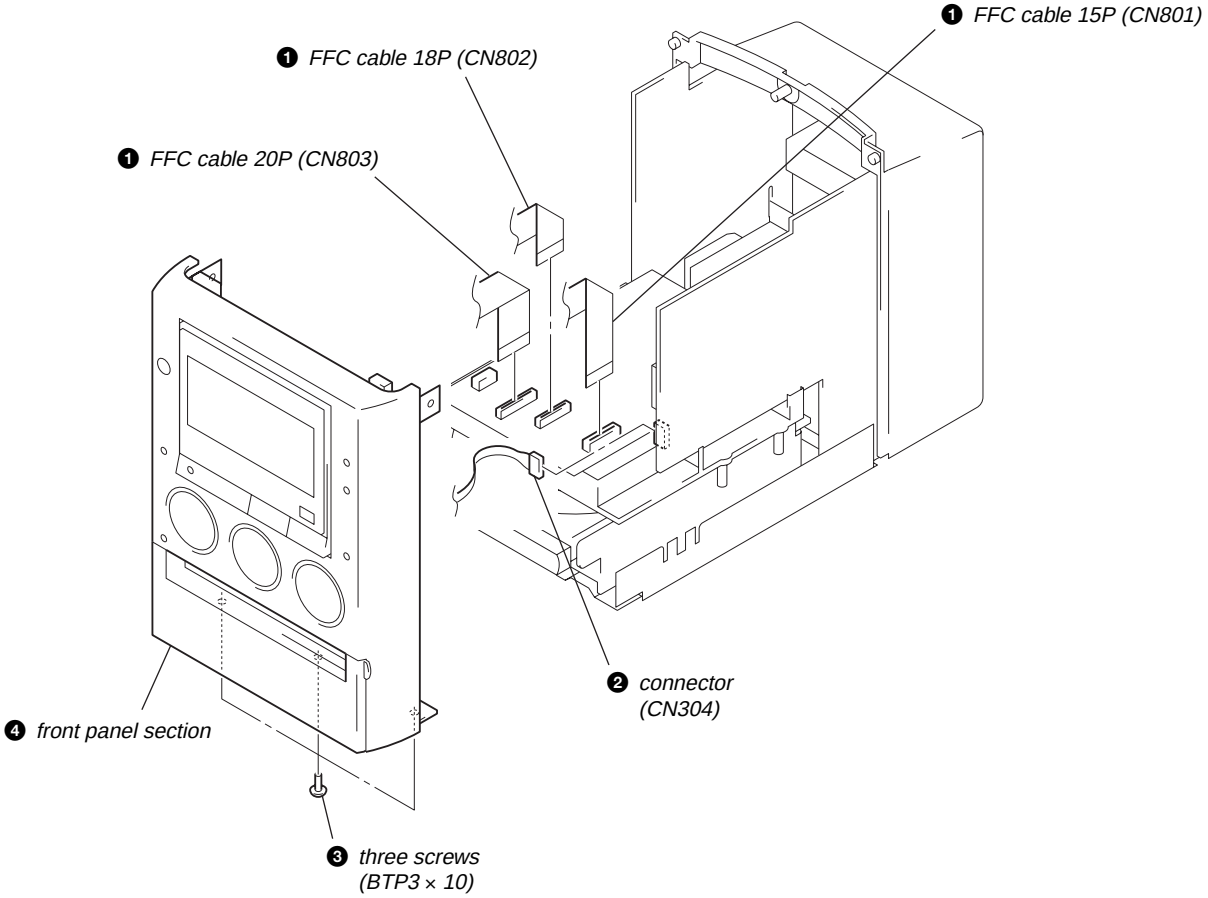
3-3. TOP PANEL SECTION



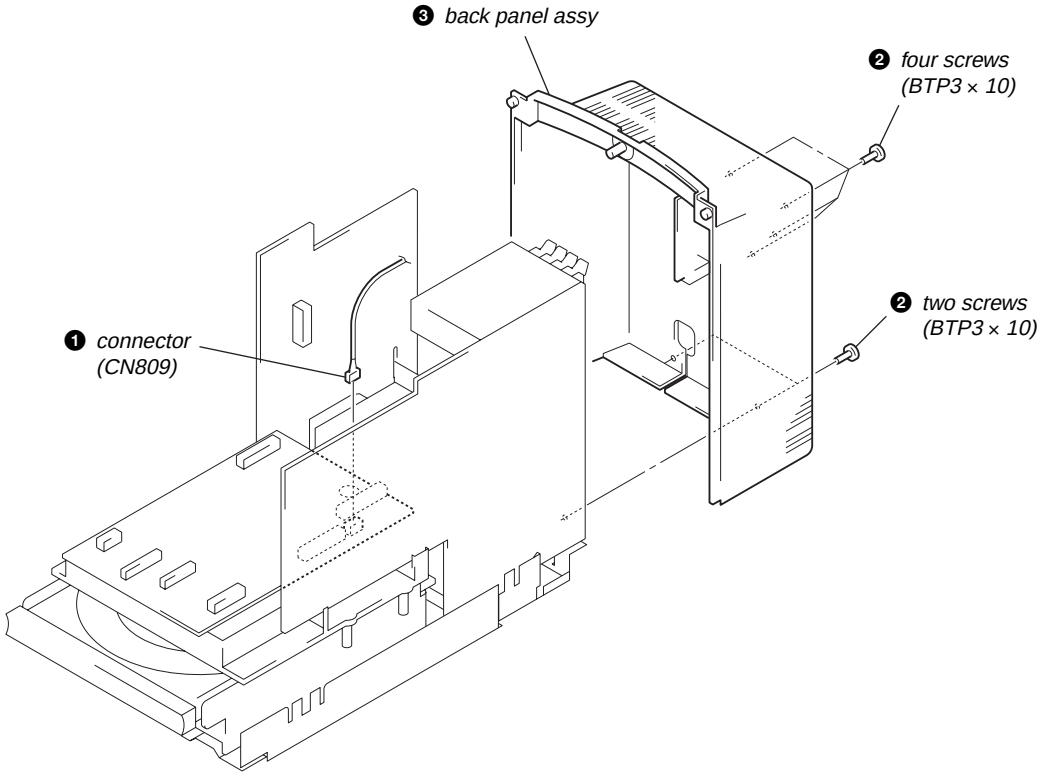
3-4. MECHANICAL DECK (TAPE)


⓭ mechanical deck (tape)
❷
❾ two screws (BVTT2.6 × 5)
❸ shield case (TC)
❿ MD bracket (L)
❺ connector
❶ two screws (BVTP3 × 8)
❶ two screws (BVTP3 × 8)
⓬ MD bracket (R)
❹ FFC cable 8P
⓫ two screws (BVTT2.6 × 5)
❻ two screws (BVTT2.6 × 5)
❼
❽ TC board
❻ screw (BVTT2.6 × 5)

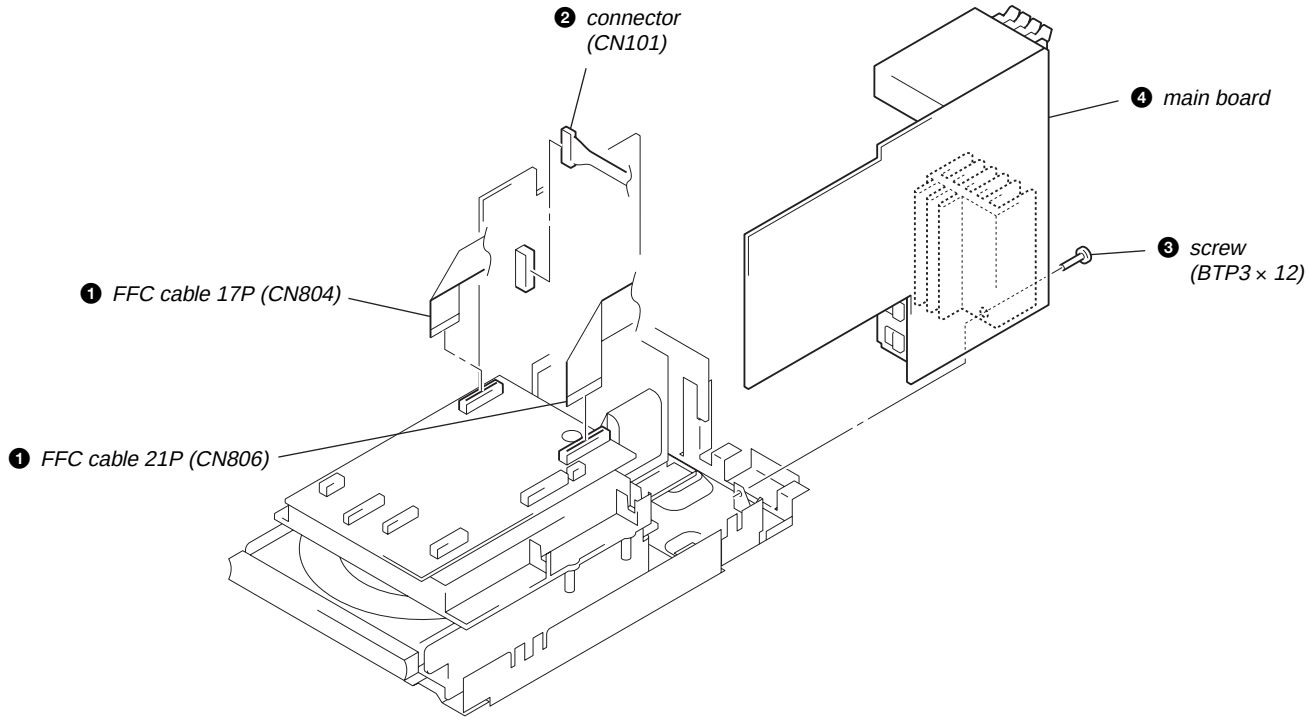
3-5. FRONT PANEL SECTION


❶ FFC cable 15P (CN801)
❶ FFC cable 18P (CN802)
❶ FFC cable 20P (CN803)
❷ connector (CN304)
❹ front panel section
❸ three screws (BTP3 × 10)

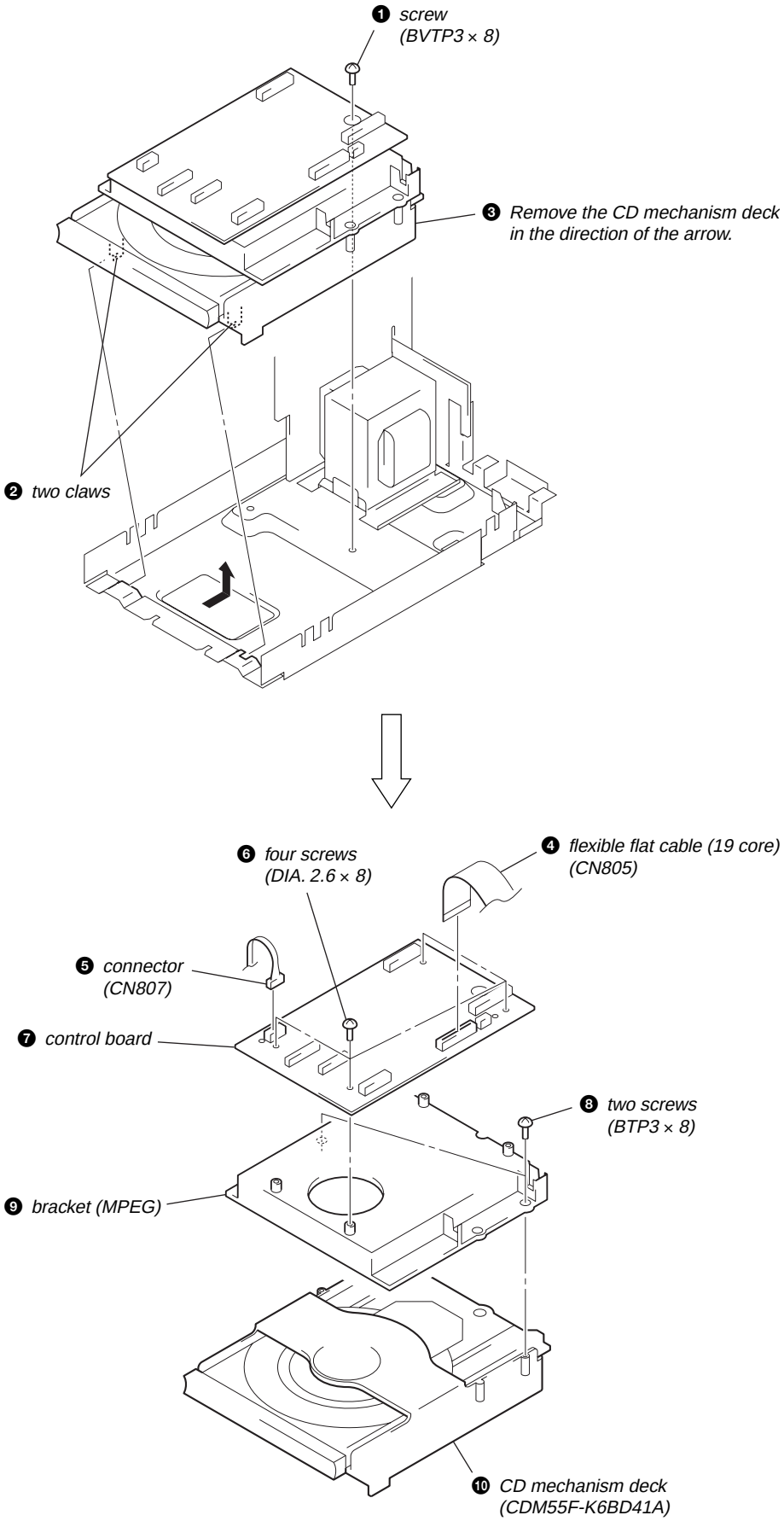
3-6. BACK PANEL ASSY



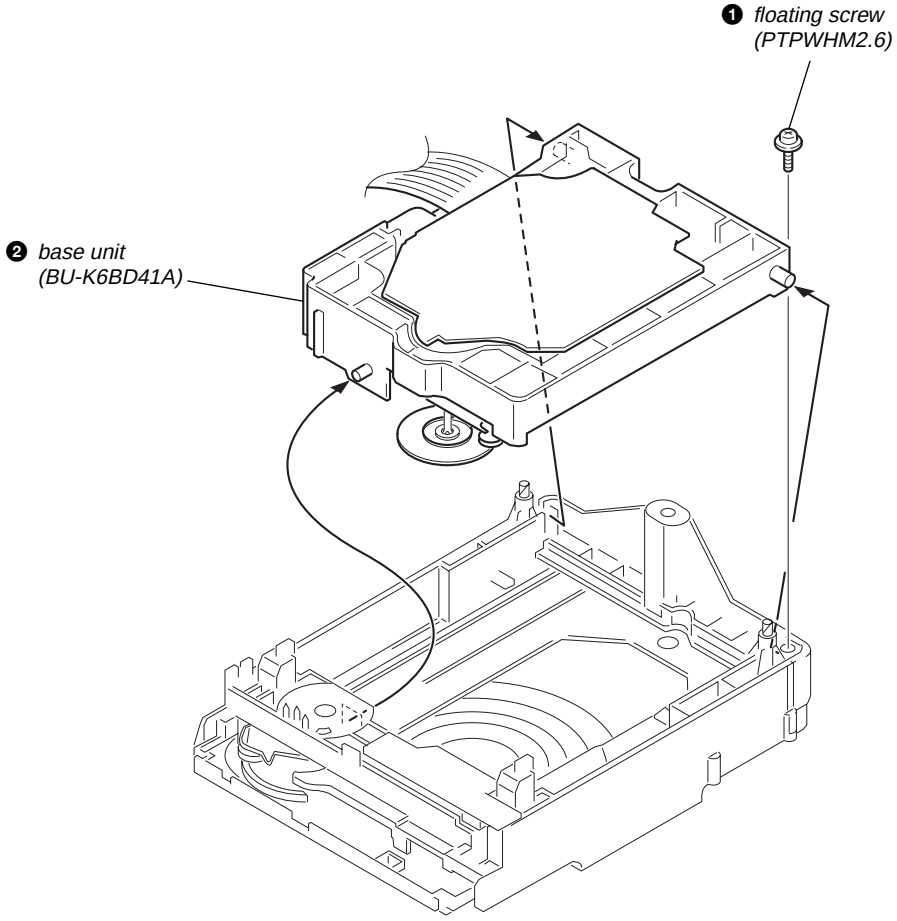
3-7. MAIN BOARD



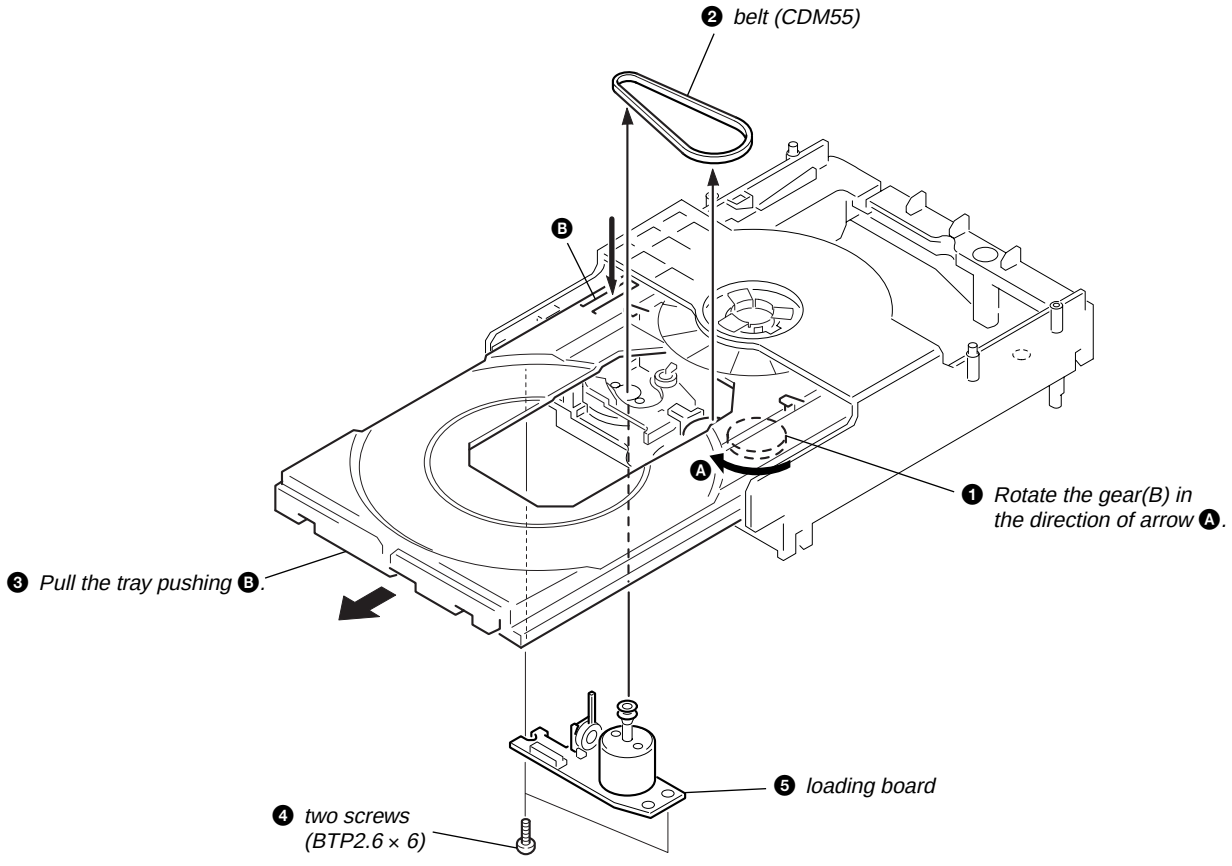
3-8. CD MECHANISM DECK (CDM55F-K6BD41A)



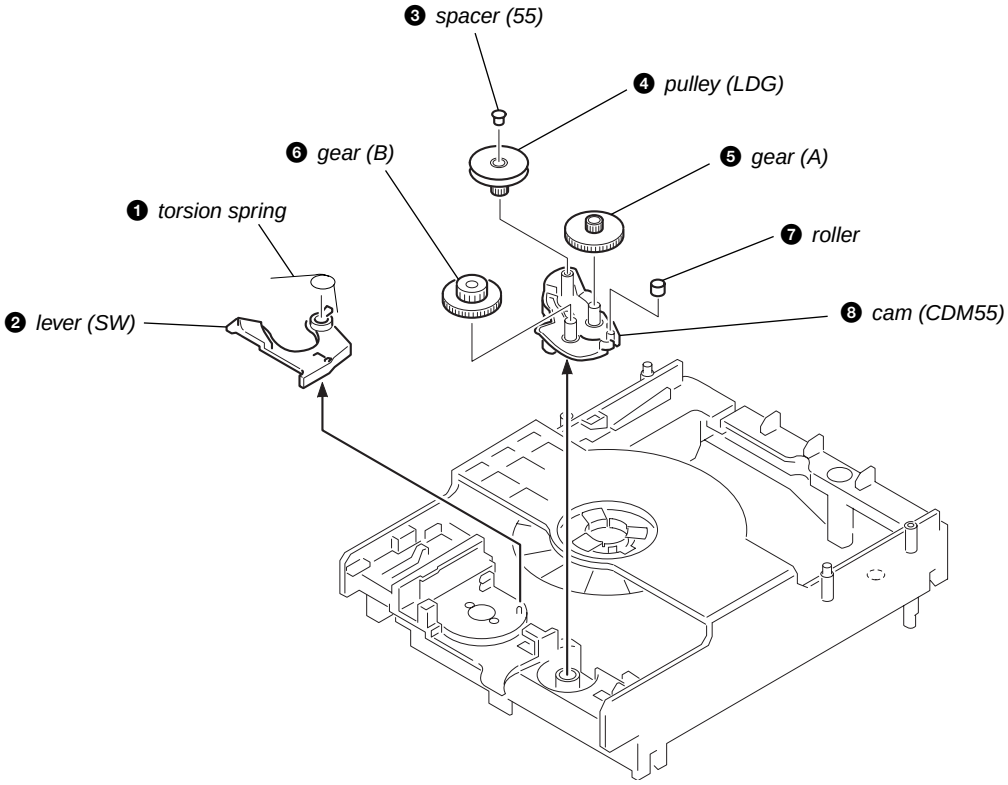
3-9. BASE UNIT (BU-K6BD41A)



3-10. LOADING BOARD



3-11. CAM (CDM55)



SECTION 4
TEST MODE

[COLD RESET]

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure:

1. Turn ON the power.
2. Press three buttons of [■], [DSG], and [CD ▮▮] simultaneously.
3. The set is reset.

[LIQUID CRYSTAL DISPLAY ALL LIT CHECK MODE]

Procedure:

1. Set to standby state.
2. Press three buttons of [■], [DSG], and [PLAY MODE/TUNING MODE] simultaneously.
3. Liquid crystal display are all turned on.
4. To exit from this mode, press the [I/⏻] button to turn the power OFF.

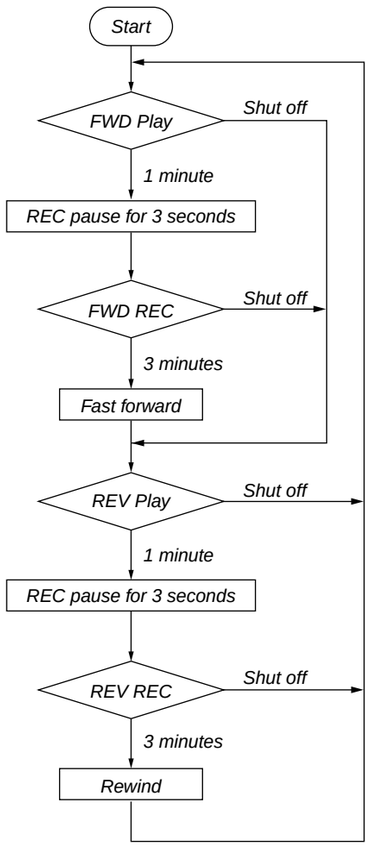
[TAPE DECK AGING MODE]

This mode can be used for operation check of tape deck section.

Procedure:

1. Set a tape in the tape deck.
2. Set to standby state.
3. Press three buttons of [■], [DSG], and [CD SYNCHRO] simultaneously.
4. The aging is executed in bellow sequence.
5. To exit from the aging mode, press the [I/⏻] button to turn the power OFF.

Aging mode sequence:



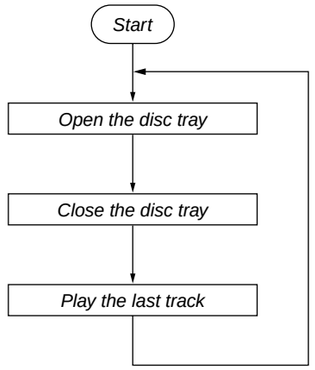
[CD AGING MODE]

This mode can be used for operation check of CD section.

Procedure:

1. Load a CD disc.
2. Set to standby state.
3. Press three buttons of [■], [DSG], and [REPEAT/FM MODE] simultaneously.
4. The aging is executed in bellow sequence.
5. To exit from the aging mode, press the [I/⏻] button to turn the power OFF.

Aging mode sequence:



[CHANGE-OVER MD/VIDEO]

Procedure:

1. Set to standby state.
2. Press the [DSG] and the [FUNCTION] buttons simultaneously.
3. The function change over to MD or VIDEO by turns.

[CHANGE-OVER THE AM TUNING INTERVAL] (Except AEP and UK models)

- The AM tuning interval can be changed over 9 kHz or 10 kHz.

Procedure:

1. Press the [I/⏻] button to turn the power ON.
2. Select the function "TUNER", and press the [TUNER AM] button to select the "AM".
3. Press the [I/⏻] button to turn the power OFF.
4. Change over to 9 kHz:
   Press the [TUNING –] and the [TUNER AM] buttons simultaneously.
   Change over to 10 kHz:
   Press the [TUNING +] and the [TUNER AM] buttons simultaneously.

SECTION 5
ELECTRICAL ADJUSTMENTS

DECK SECTION

0 dB=0.775 V

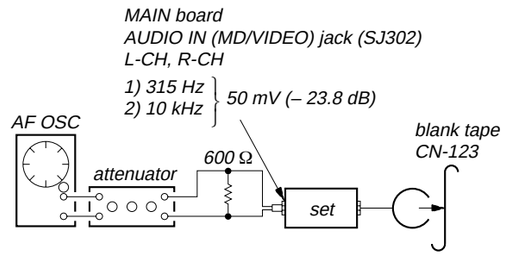
Note: Confirm each contents of this section first of all. If the results are not satisfied, do the adjustment.

1. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
2. The adjustments should be performed in the order given in this service manual.
3. The adjustments should be performed for both L-CH and R-CH.

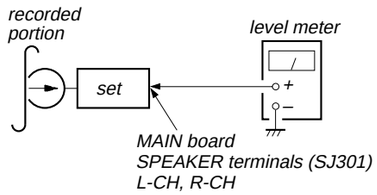
REC Bias Adjustment

Procedure:

1. Mode: REC
   FUNCTION: VIDEO



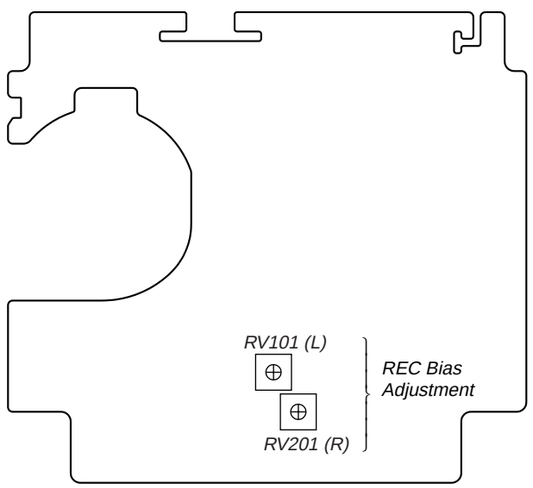
2. Mode: Playback



3. Confirm playback the signal recorded in step 1 become specified values as follows.
   If these values are out of specification values, adjust the RV101 (L-CH) and RV201 (R-CH) on the TC board to repeat steps 1and 2.

Specified values: Playback output of 315 Hz to playback output of 10 kHz: ± 0.5 dB
Adjustment Location: TC board

– TC BOARD (Component Side) –

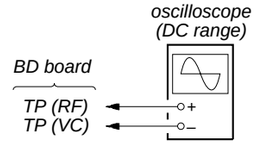


CD SECTION

Note:

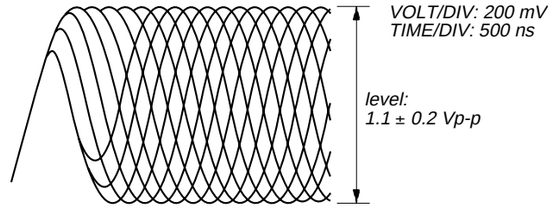
1. CD Block is basically constructed to operate without adjustment.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10 MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.
5. Check the focus bias check when optical block is replaced.

Focus Bias Check



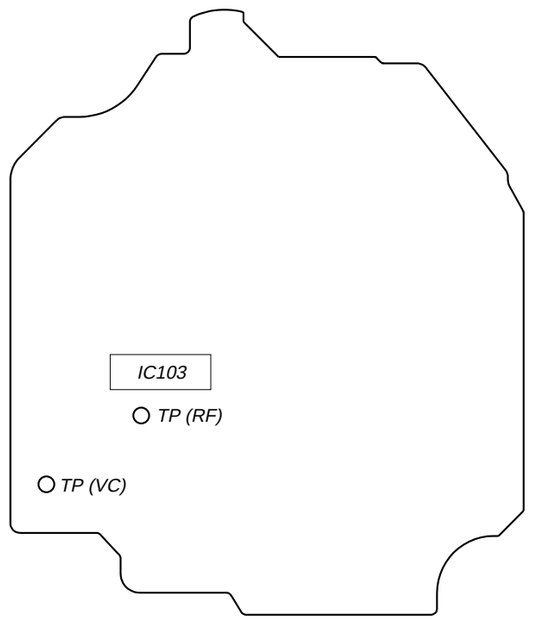
Procedure :

1. Connect oscilloscope to TP (RF) and TP (VC) on the CD board.
2. Press the [I/⏻] button to turn the power on, and press the [⏏ CD] button to open the CD disc tray.
3. Put disc (YEDS-18) in and press the [CD ▶] button to playback.
4. Confirm that oscilloscope waveform is as shown in the figure below. (eye pattern)
   A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.



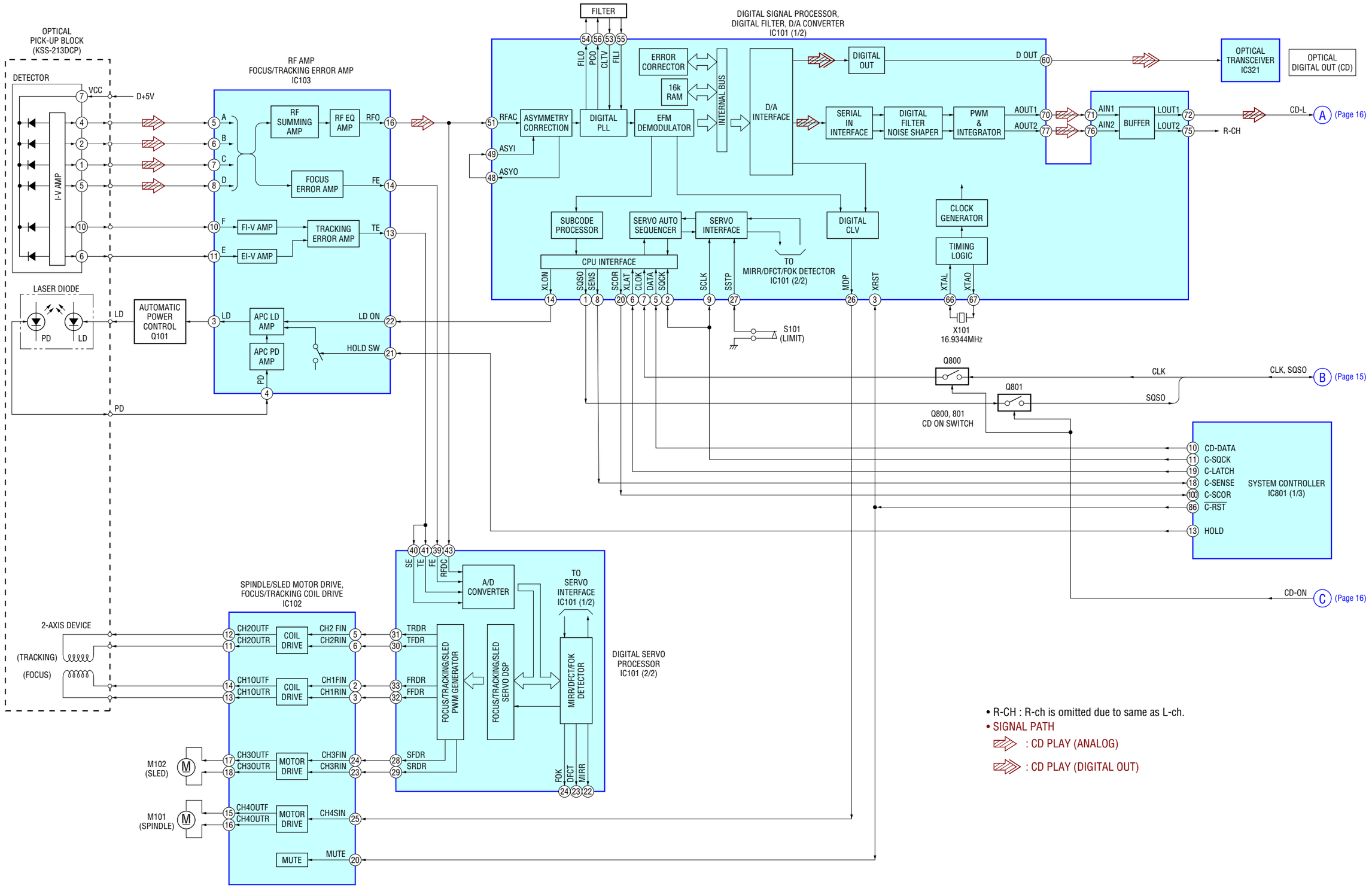
Checking Location:

– CD BOARD (Conductor Side) –



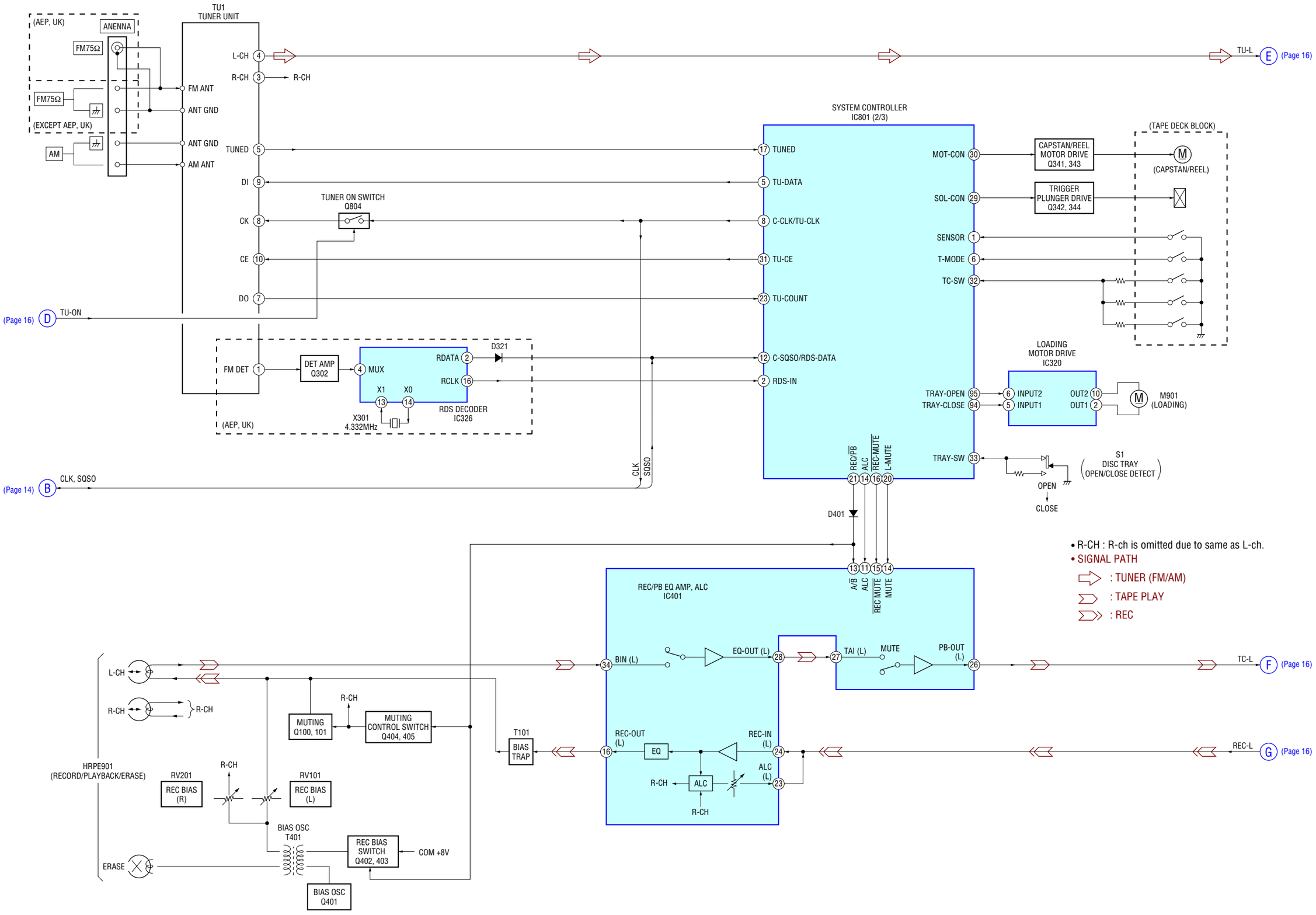
SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM – CD SERVO Section –

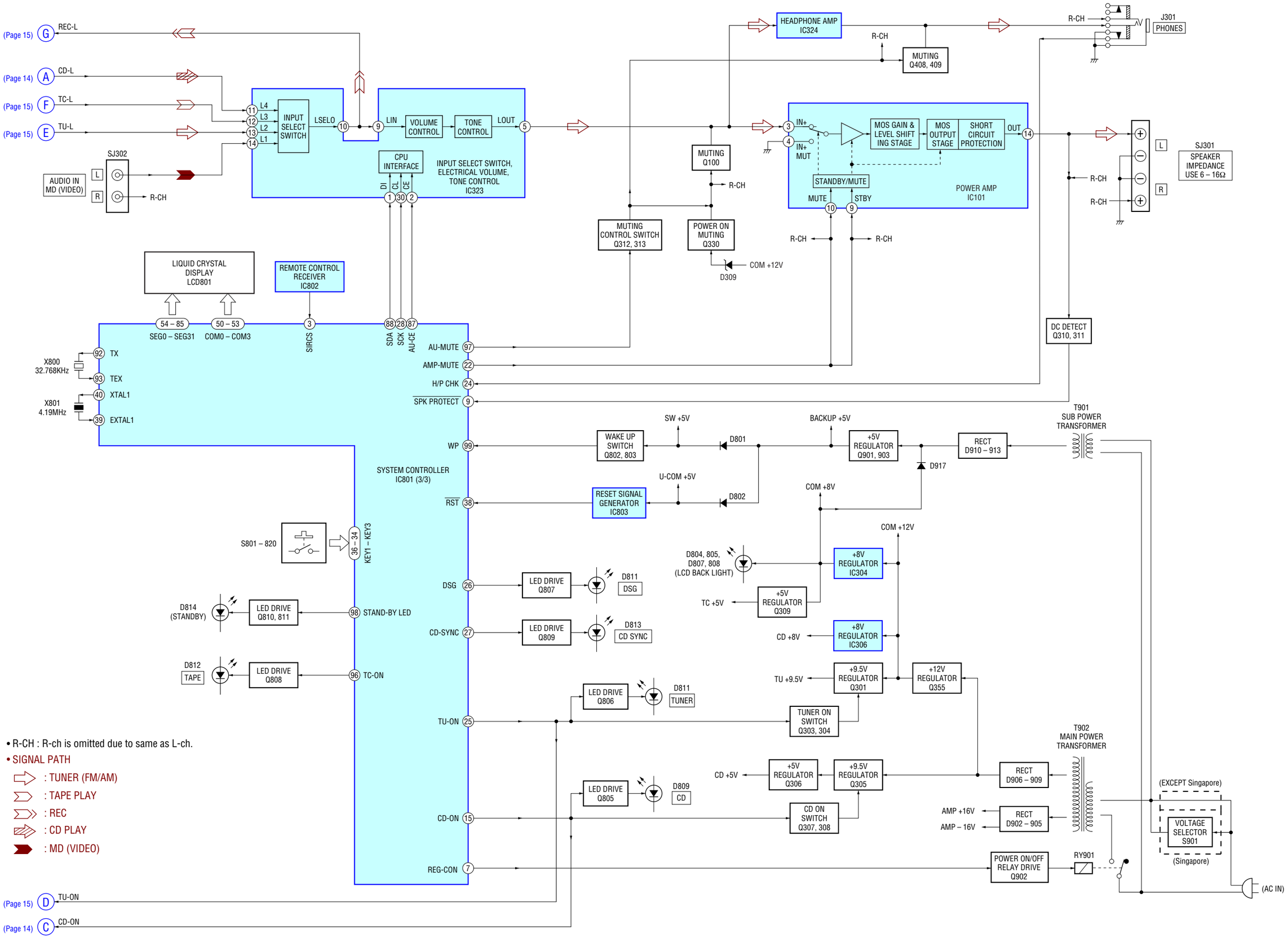


- R-CH : R-ch is omitted due to same as L-ch.
- SIGNAL PATH
  - : CD PLAY (ANALOG)
  - : CD PLAY (DIGITAL OUT)

6-2. BLOCK DIAGRAM – TUNER/TAPE DECK Section –



6-3. BLOCK DIAGRAM – MAIN Section –



- R-CH : R-ch is omitted due to same as L-ch.
- SIGNAL PATH
  - : TUNER (FM/AM)
  - : TAPE PLAY
  - : REC
  - : CD PLAY
  - : MD (VIDEO)

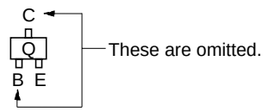
6-4. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Boards:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ⬚← : indicates side identified with part number.
- △ : internal component.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

- Indication of transistor.



Note on Schematic Diagram:

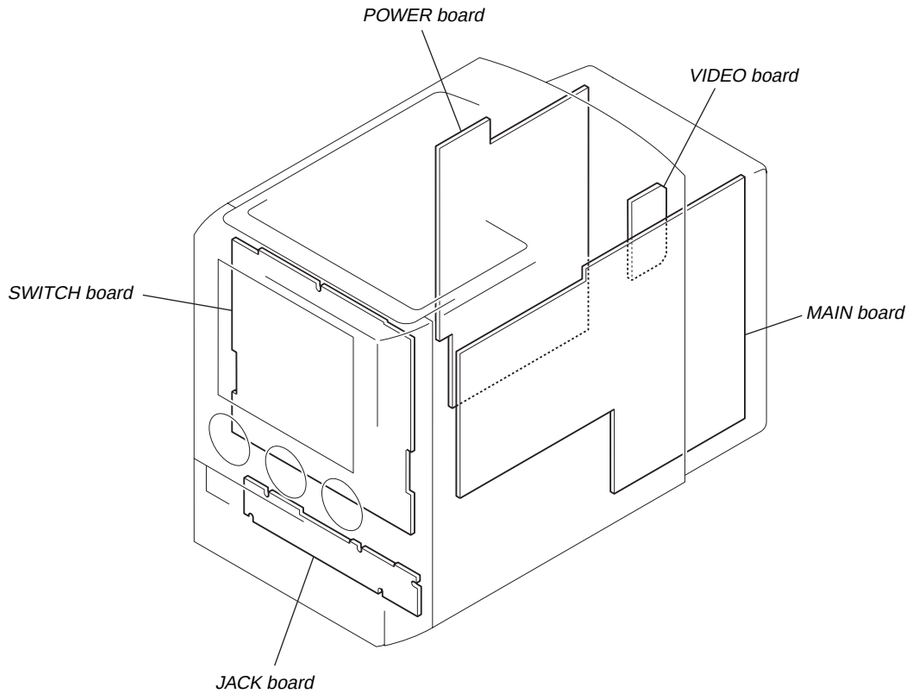
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

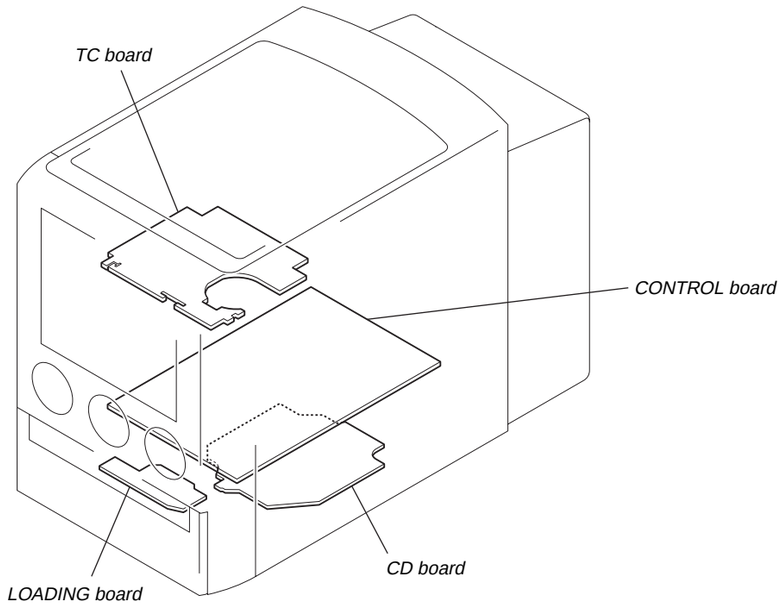
Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬ : B+ Line.
- ▬ ▬ ▬ : B– Line.
- ▭ : adjustment for repair.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - ⇨ : TUNER (FM/AM)
  - ⇨ : TAPE PLAY
  - ⇨ : REC
  - ⇨ : CD PLAY (ANALOG)
  - ⇨ : CD PLAY (DIGITAL OUT)
  - ⇨ : MD (VIDEO)
- Abbreviation

AUS : Australian model
CND : Canadian model
KR : Korean model
MX : Mexican model
SP : Singapore model
TH : Thai model

- **Circuit Boards Location**

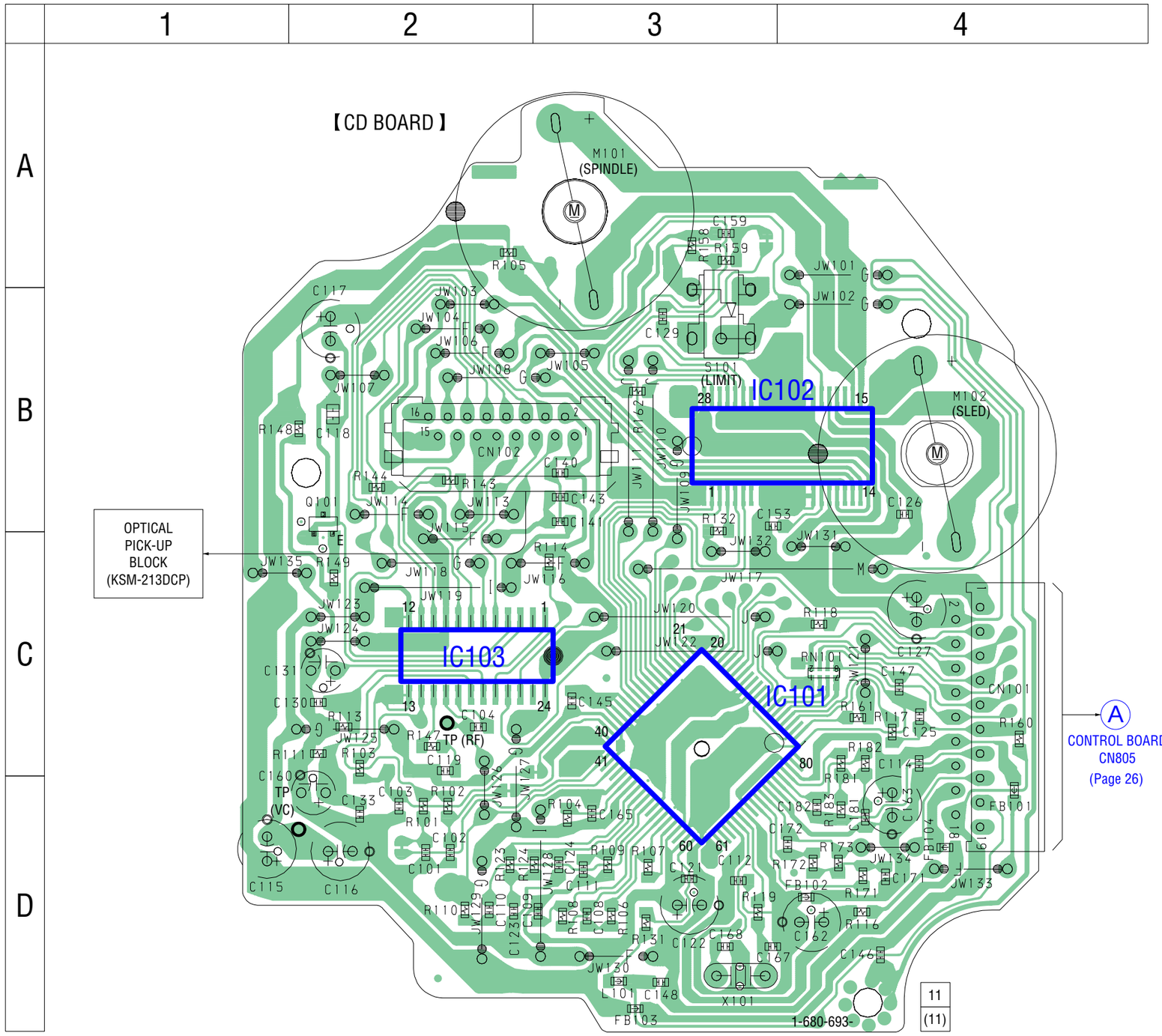




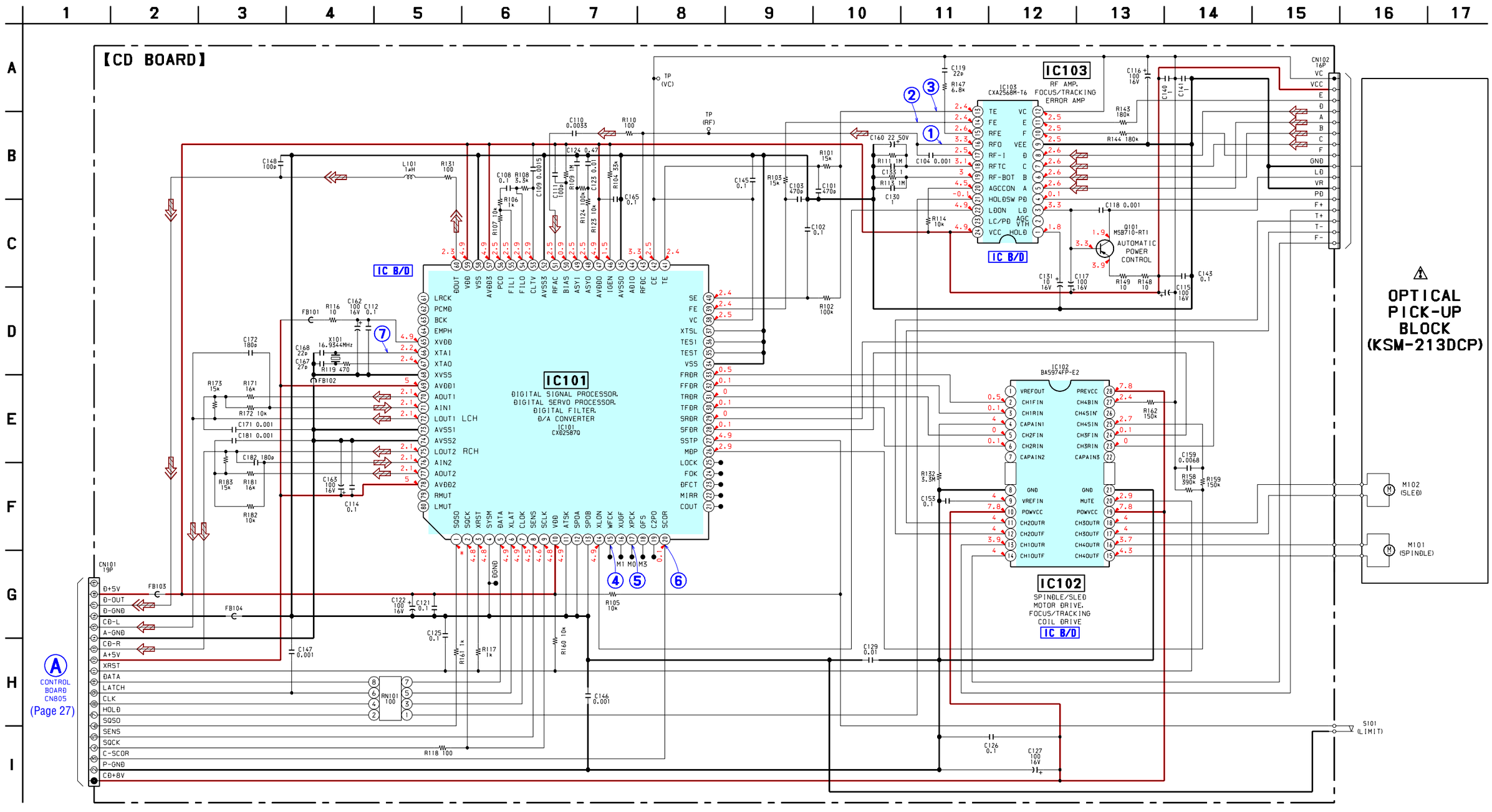
6-5. PRINTED WIRING BOARD – CD Board – • See page 17 for Circuit Boards Location.

- **Semiconductor Location**

Ref. No.	Location
IC101	C-3
IC102	B-3
IC103	C-2
Q101	B-2



6-6. SCHEMATIC DIAGRAM – CD Board – • See page 25 for Waveforms. • See page 32 for IC Block Diagrams.



• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark : CD PLAY
＊ : Impossible to measure

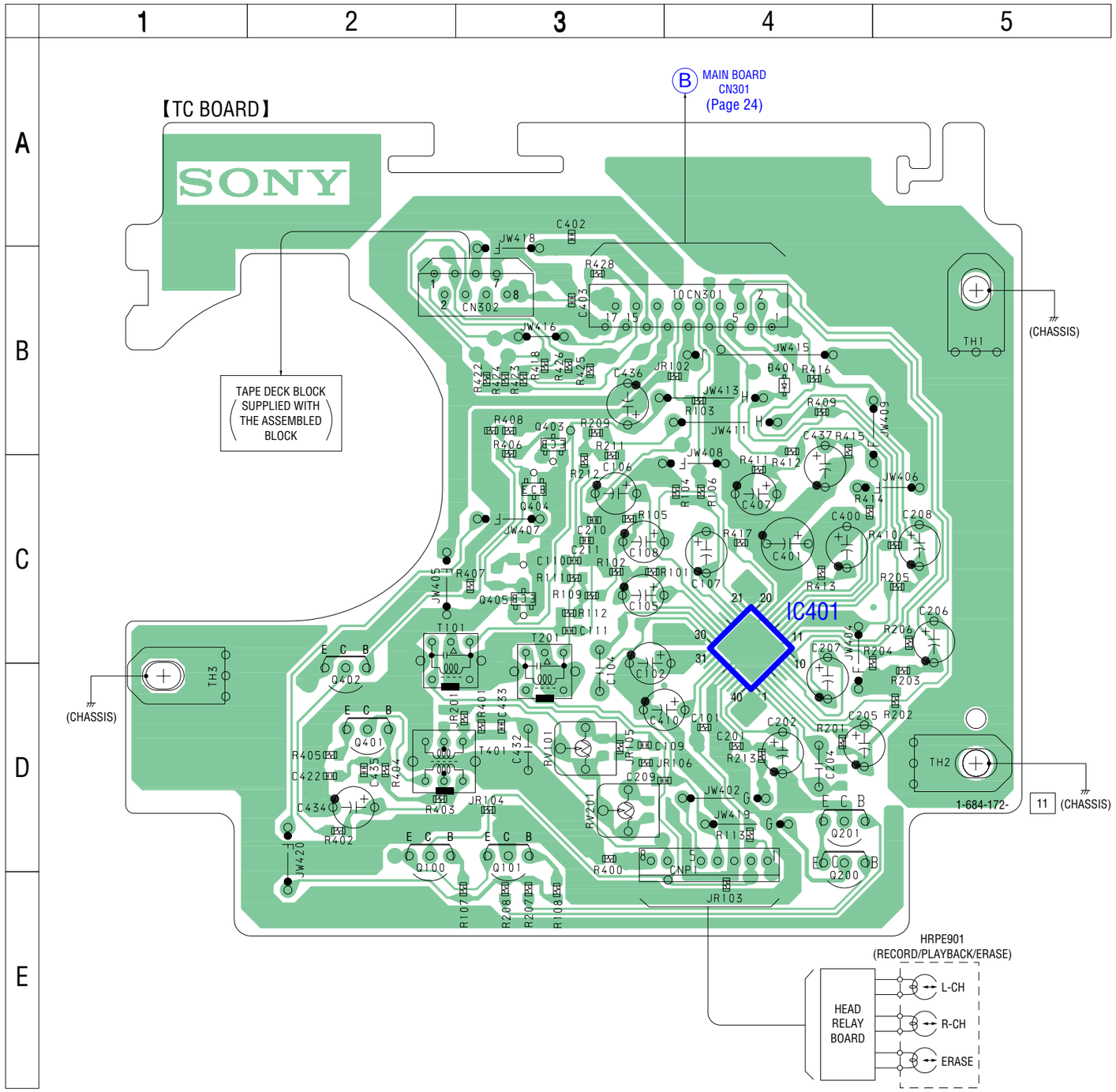
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-7. PRINTED WIRING BOARD – TC Board –

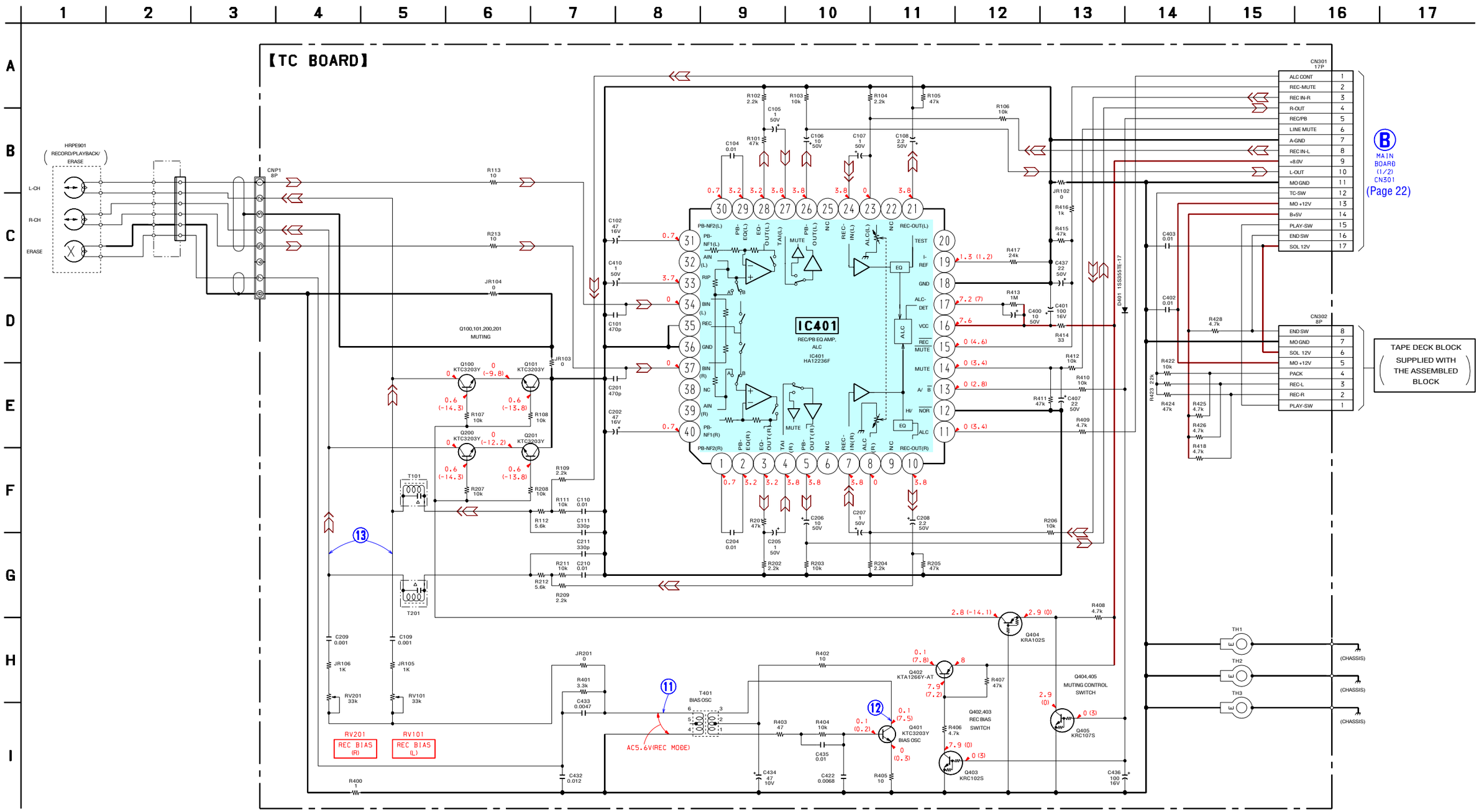
• See page 17 for Circuit Boards Location.

• **Semiconductor Location**

Ref. No.	Location
D401	B-4
IC401	C-4
Q100	D-2
Q101	D-3
Q200	D-4
Q201	D-4
Q401	D-2
Q402	D-2
Q403	B-3
Q404	C-3
Q405	C-3



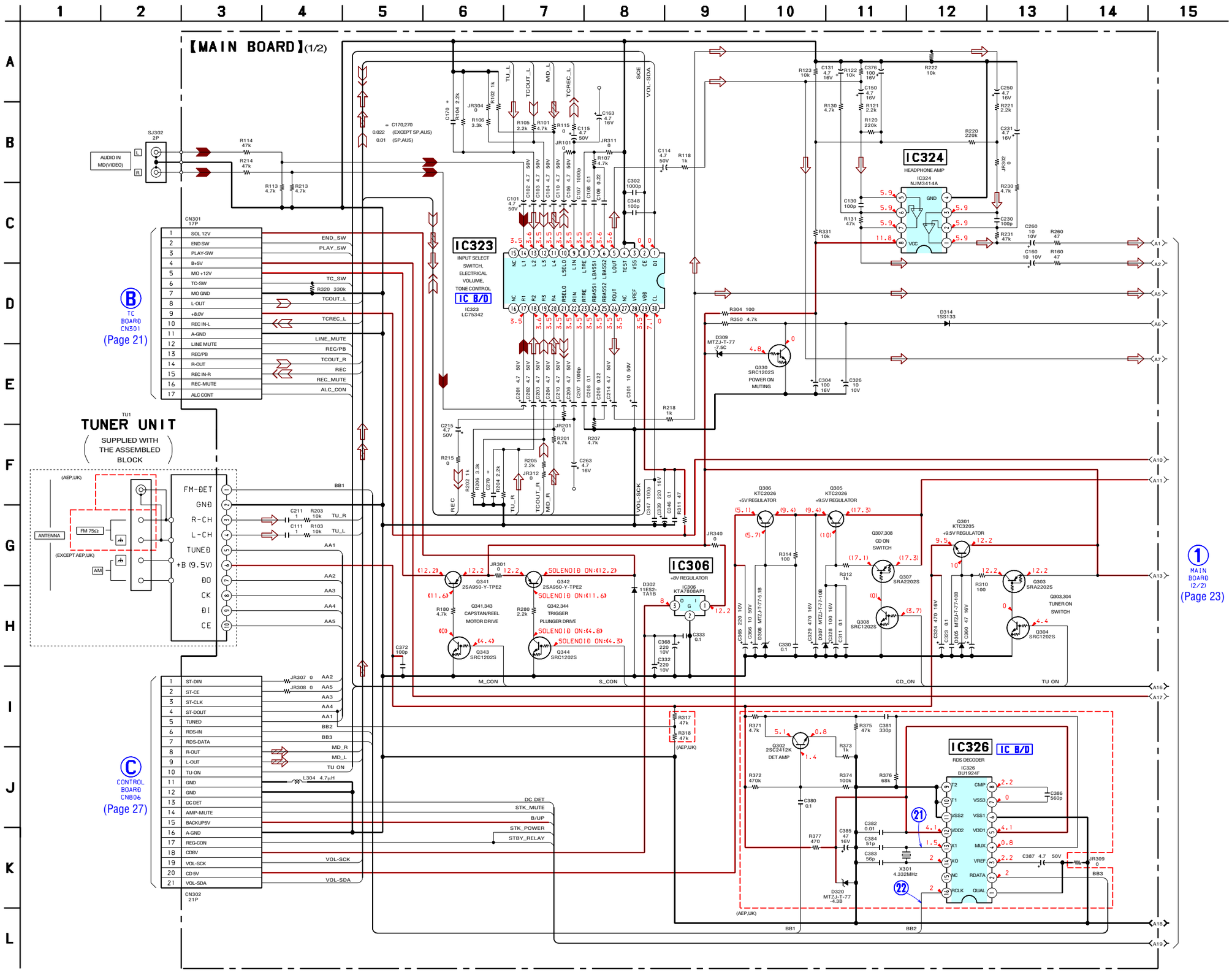
6-8. SCHEMATIC DIAGRAM – TC Board – • See page 25 for Waveforms.



- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : TAPE PLAY
  ( ) : REC

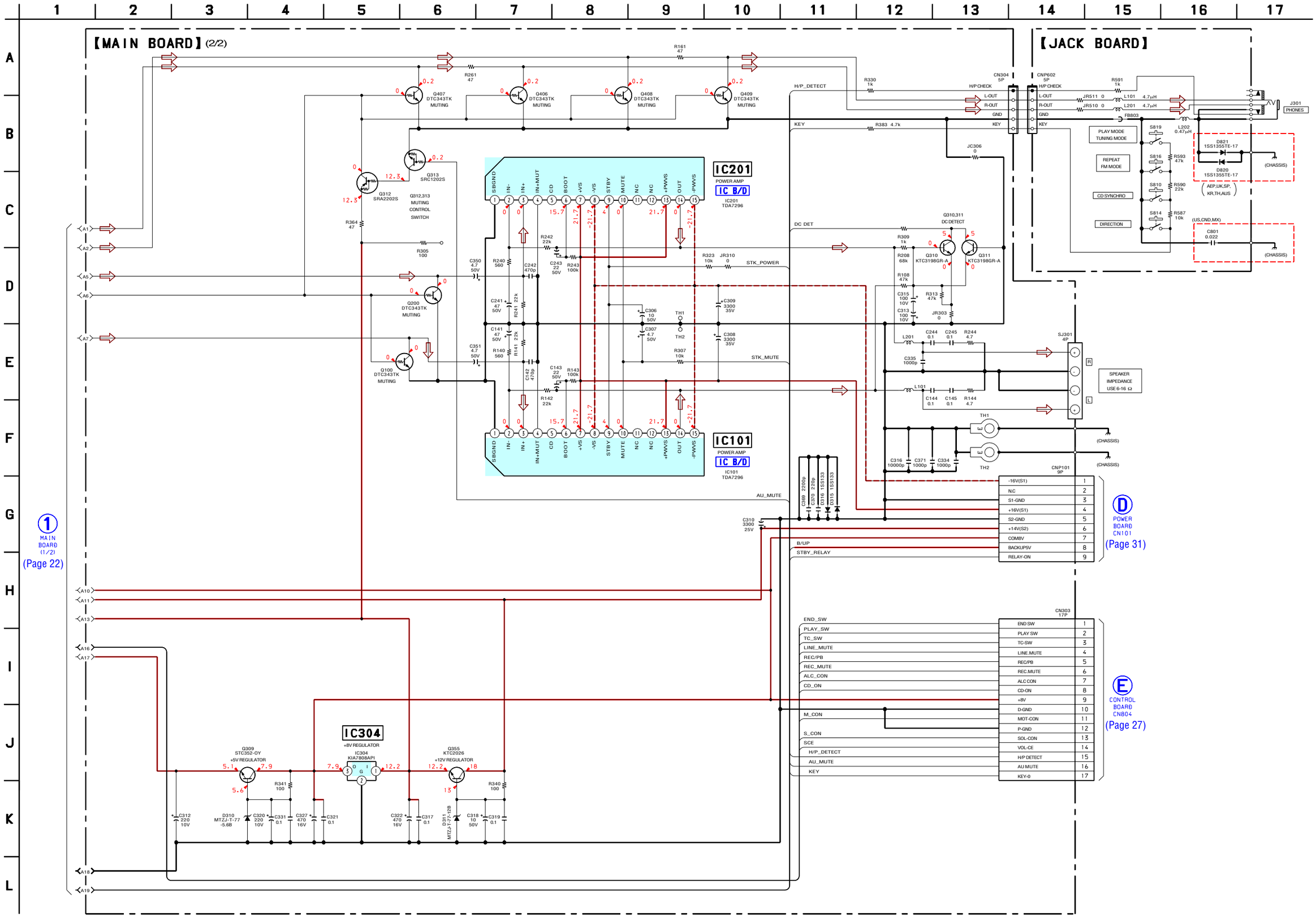
6-9. SCHEMATIC DIAGRAM – MAIN Board (1/2) –

• See page 25 for Waveforms. • See page 32 for IC Block Diagrams.



- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : TUNER (FM/AM)
  ( ) : CD PLAY
  ⟨⟨ ⟩⟩ : TAPE PLAY

6-10. SCHEMATIC DIAGRAM – MAIN (2/2)/JACK Boards – • See page 32 for IC Block Diagrams.



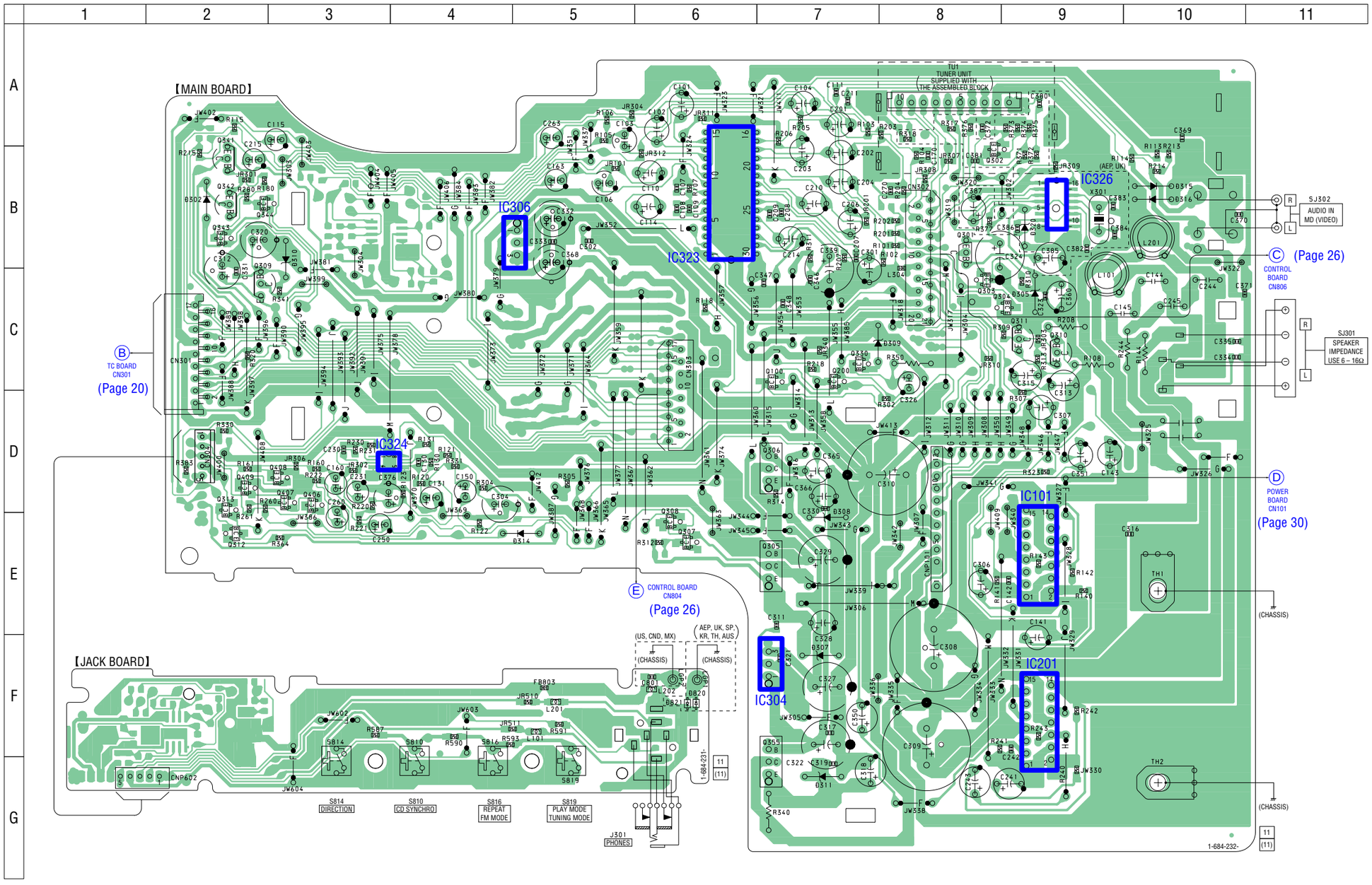
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : TUNER (FM/AM)

6-11. PRINTED WIRING BOARDS – MAIN/JACK Boards –

• See page 17 for Circuit Boards Location.

• **Semiconductor Location**

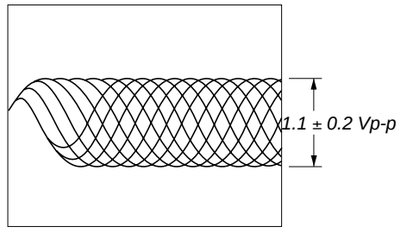
Ref. No.	Location
D302	B-2
D305	C-9
D307	F-7
D308	E-7
D309	C-8
D310	B-3
D311	G-7
D314	E-5
D315	B-10
D316	B-10
D320	B-9
D820	F-6
D821	F-6
IC101	E-9
IC201	F-9
IC304	F-7
IC306	B-5
IC323	B-6
IC324	D-3
IC326	B-9
Q100	C-7
Q200	C-7
Q301	B-8
Q302	B-8
Q303	C-8
Q304	C-9
Q305	E-7
Q306	D-7
Q307	E-6
Q308	E-6
Q309	C-2
Q310	C-9
Q311	C-9
Q312	E-2
Q313	D-2
Q330	C-7
Q341	B-2
Q342	B-2
Q343	B-2
Q344	B-2
Q355	G-7
Q406	D-3
Q407	D-3
Q408	D-3
Q409	D-2



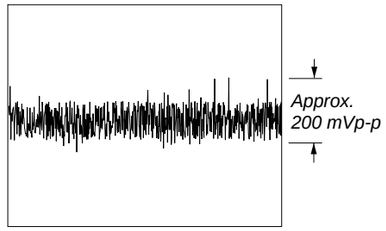
• **Waveforms**

– CD Board –

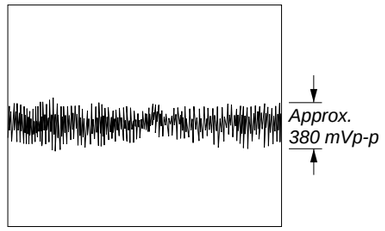
❶ IC103 ⑯ (RFO) (CD Play Mode)



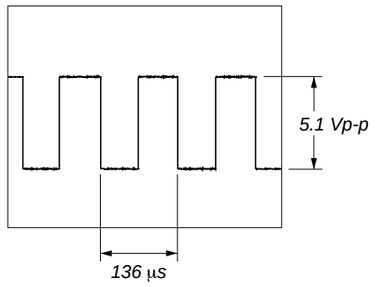
❷ IC103 ⑭ (FE) (CD Play Mode)



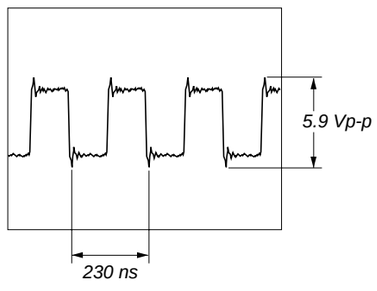
❸ IC103 ⑬ (TE) (CD Play Mode)



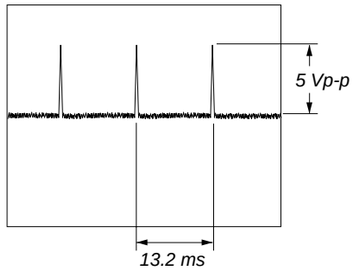
❹ IC101 ⑮ (WFCK)



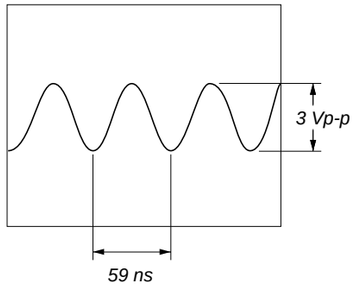
❺ IC101 ⑰ (XPCK)



❻ IC101 ⑳ (SCOR) (CD Play Mode)

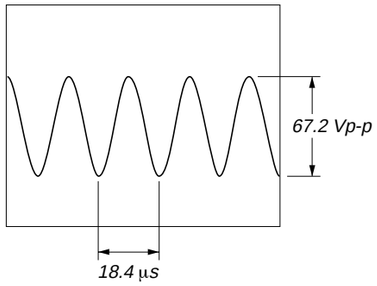


❼ IC101 ㊽ (XTAI)

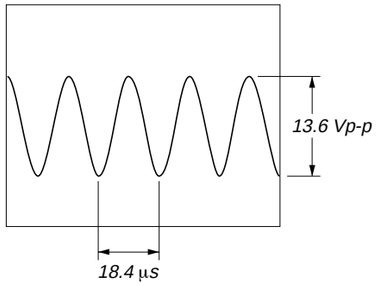


– TC Board –

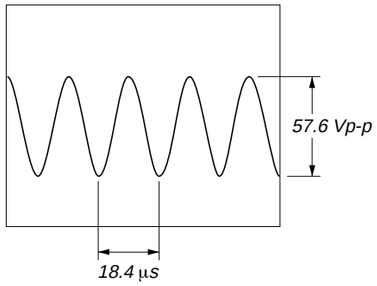
⓫ T401 (REC Mode)



⓬ Q401 (Collector) (REC Mode)

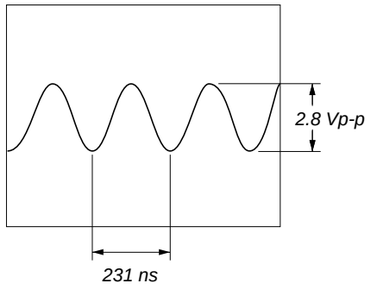


⓭ T101, 201 (REC Mode)

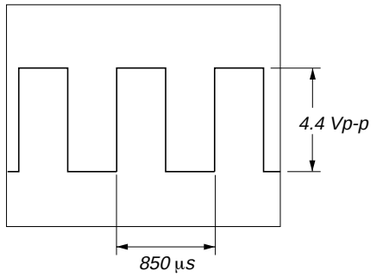


– MAIN Board –

㉑ IC326 ⑬ (X1) (TUNER Mode) (AEP, UK)

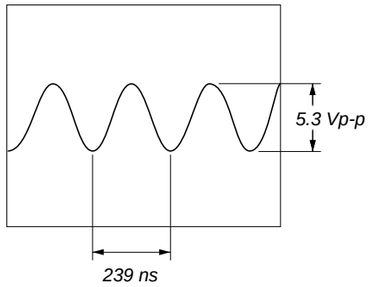


㉒ IC326 ⑯ (RCLK) (TUNER Mode) (AEP, UK)

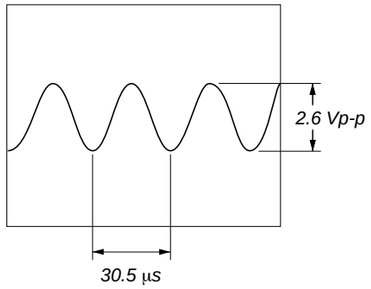


– CONTROL Board –

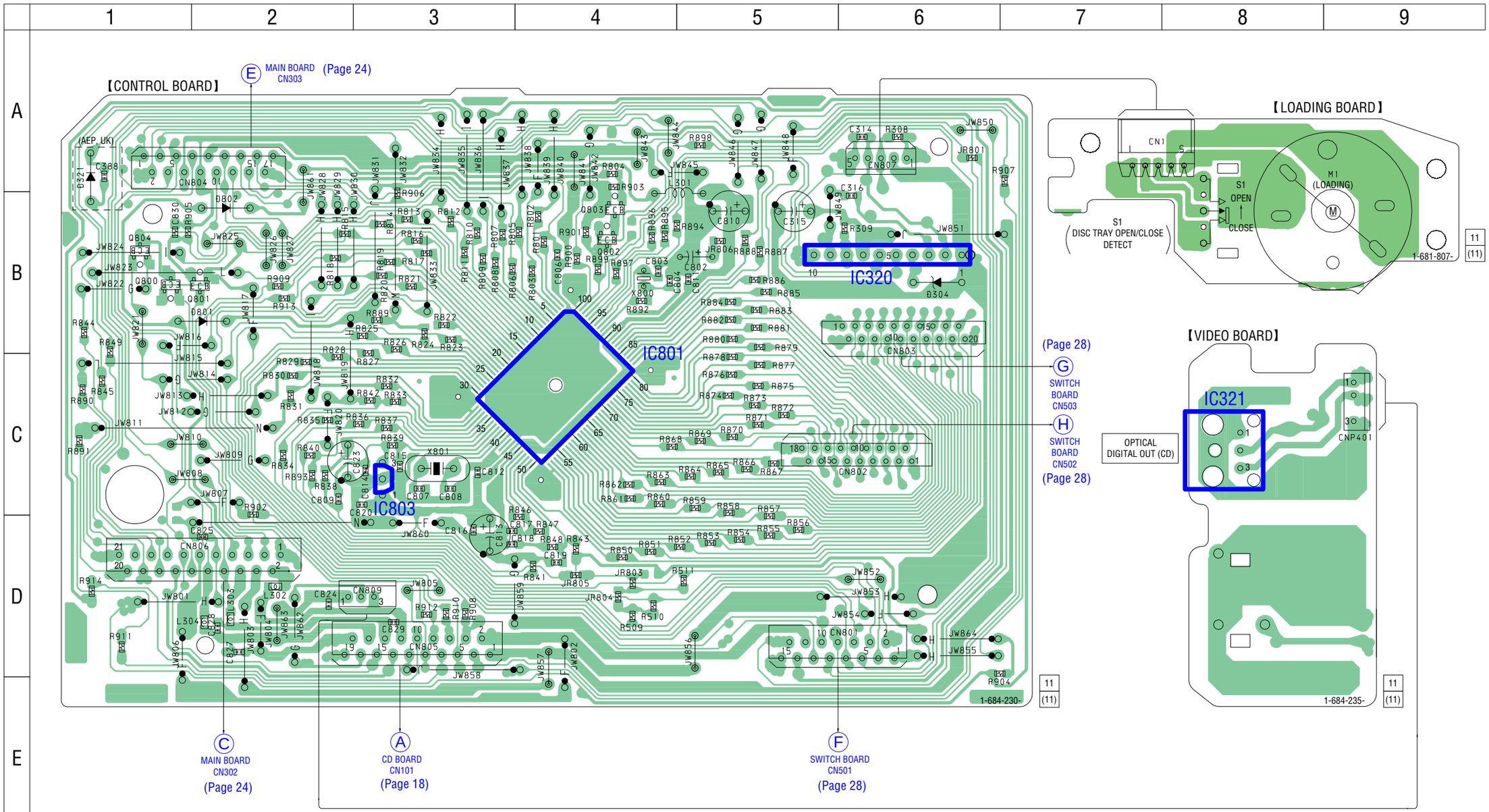
㉛ IC801 ㊴ (EXTAL1)



㉜ IC801 ㉜ (TX)



6-12. PRINTED WIRING BOARDS – CONTROL/LOADING/VIDEO Boards – • See page 17 for Circuit Boards Location.



- **Semiconductor Location**

Ref. No.	Location
D304	B-6
D321	A-1
D801	B-2
D802	B-2
IC320	B-6
IC321	C-8
IC801	C-4
IC803	C-3
Q800	B-1
Q801	B-2
Q802	B-4
Q803	B-4
Q804	B-1

6-13. SCHEMATIC DIAGRAM – CONTROL/LOADING/SWITCH (1/2)/VIDEO Boards – • See page 25 for Waveforms. • See page 32 for IC Block Diagram.

【SWITCH BOARD】(1/2)

LCD801
LIQUID CRYSTAL DISPLAY

【CONTROL BOARD】

IC801
SYSTEM CONTROLLER
IC801
CXP83124A-053Q

IC803
BMR0301H
RESET SIGNAL GENERATOR

IC321
TOTX178A
OPTICAL TRANSCEIVER

IC320
LOADING MOTOR DRIVE
IC320
KA3082

【VIDEO BOARD】

【LOADING BOARD】

Q802 SRA2202SF WAKE UP SWITCH
Q803 2SC2412K WAKE UP SWITCH
Q804 SRC1202SF TUNER ON SWITCH
Q800 SRC1202SF CD ON SWITCH
Q801 SRC1202SF CD ON SWITCH

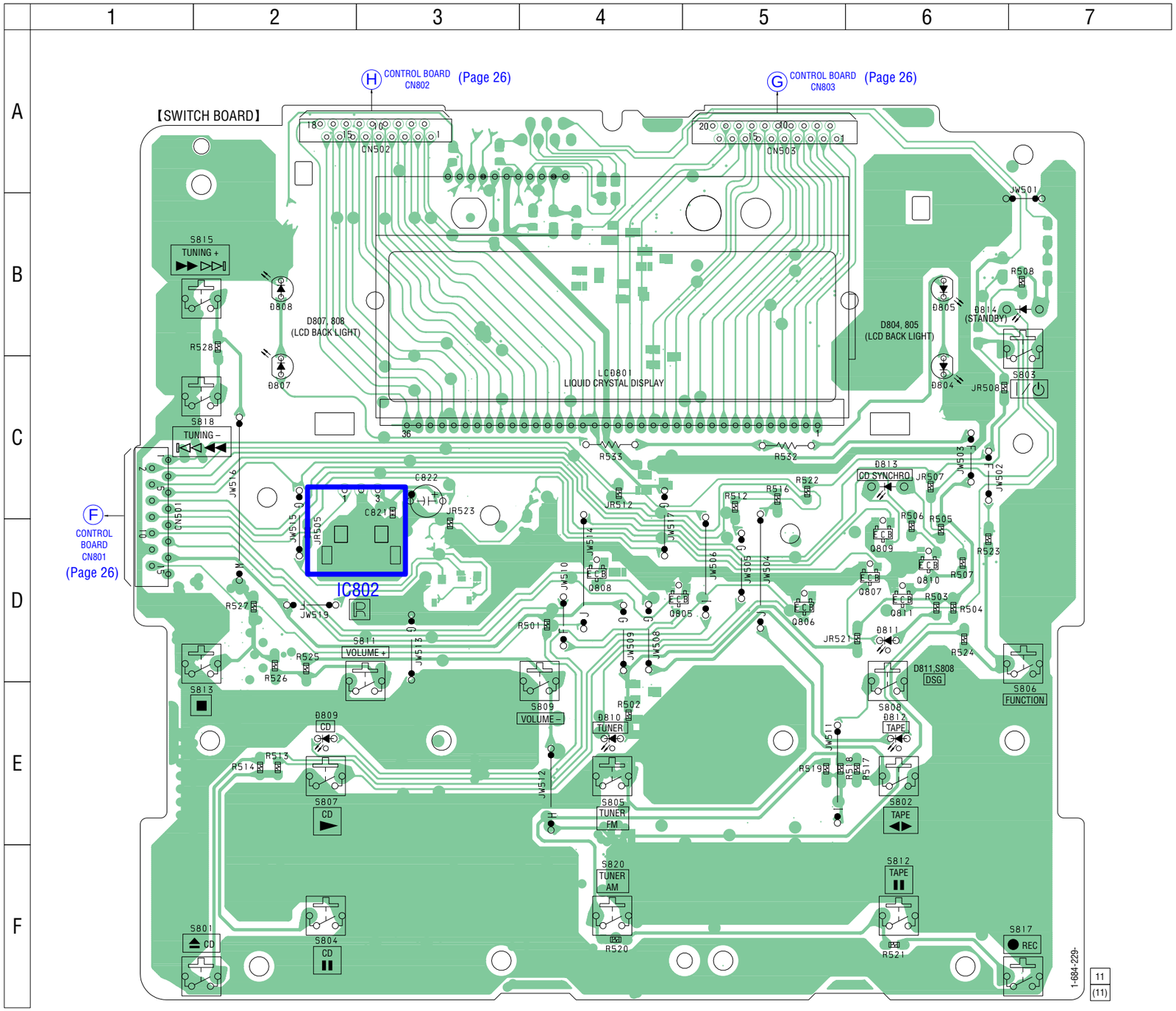
Ⓒ MAIN BOARD (1/2) CN302 (Page 22)
Ⓐ CD BOARD CN101 (Page 19)
Ⓕ SWITCH BOARD CN501 (Page 29)
Ⓔ MAIN BOARD (2/2) CN303 (Page 23)

- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : TUNER (FM/AM)
  ( ) : CD PLAY
  ⟨⟨ ⟩⟩ : TAPE PLAY

6-14. PRINTED WIRING BOARD – SWITCH Board – • See page 17 for Circuit Boards Location.

- **Semiconductor Location**

Ref. No.	Location
D804	C-6
D805	B-6
D807	C-2
D808	B-2
D809	E-2
D810	E-4
D811	D-6
D812	E-6
D813	C-6
D814	B-7
IC802	D-2
Q805	D-4
Q806	D-5
Q807	D-6
Q808	D-4
Q809	D-6
Q810	D-6
Q811	D-6



6-15. SCHEMATIC DIAGRAM – SWITCH Board (2/2) –

【SWITCH BOARD】(2/2)

R532 220
D804,805,807,808 (LCD BACK LIGHT)
R533 220
D804 SELS6B14C-LF62
D808 SELS6B14C-LF62
D805 SELS6B14C-LF62
D807 SELS6B14C-LF62

S818 TUNING -
S817 REC
S815 R528 47k
TUNING +
S812 R521 22k
TAPE
S813 R527 22k
S820 R520 10k
TUNER AM
S811 R526 10k
VOLUME +
S808 R519 4.7k
DSG
S809 R525 4.7k
VOLUME -
S805 R518 2.2k
TUNER FM
S806 R524 2.2k
FUNCTION
S802 R517 2.2k
TAPE
S803 R523 2.2k JR508 0
S801 JR512 0
CD
S804 R514 2.2k
CD
S807 R513 2.2k
R512 1k
R516 1k
R522 1k
AA1 AA2 AA3 AA4

CN501 15P
KEY AA1
KEY3 AA2
KEY1 AA3
KEY2 AA4
BACKUP 5V
CD-SYNCLED
DSG LED
SIRCS
TC-LED
CD-LED
TU-LED
D-GND
+8V
STBY-LED

F CONTROL BOARD CN801 (Page 27)

(CHASSIS)

IC802 NJL62H400A-1
IC802 REMOTE CONTROL RECEIVER
5.1 5.1
JR505 0
C821 0.01
C822 4.7 16V
JR507 0
JR523 0

JR521 0
R501 560
R502 560
R503 2.2k
R504 560
R505 560
R507 4.7k
R508 560

D809 SLR-343-YC CD
D810 SLR-343-YC TUNER
D811 SLR-343-YC DSG
D812 SLR-343-YC TAPE
D813 SLR325VR-T31 CD SYNCHRO
D814 SLR325VR-T31 (STANDBY)

Q805 SRC1202S LED DRIVE
Q806 SRC1202S LED DRIVE
Q807 SRC1202S LED DRIVE
Q808 SRC1202S LED DRIVE
Q809 SRC1202SS LED DRIVE
Q810 SRC1202S LED DRIVE
Q811 SRC1202S LED DRIVE

R506 1k

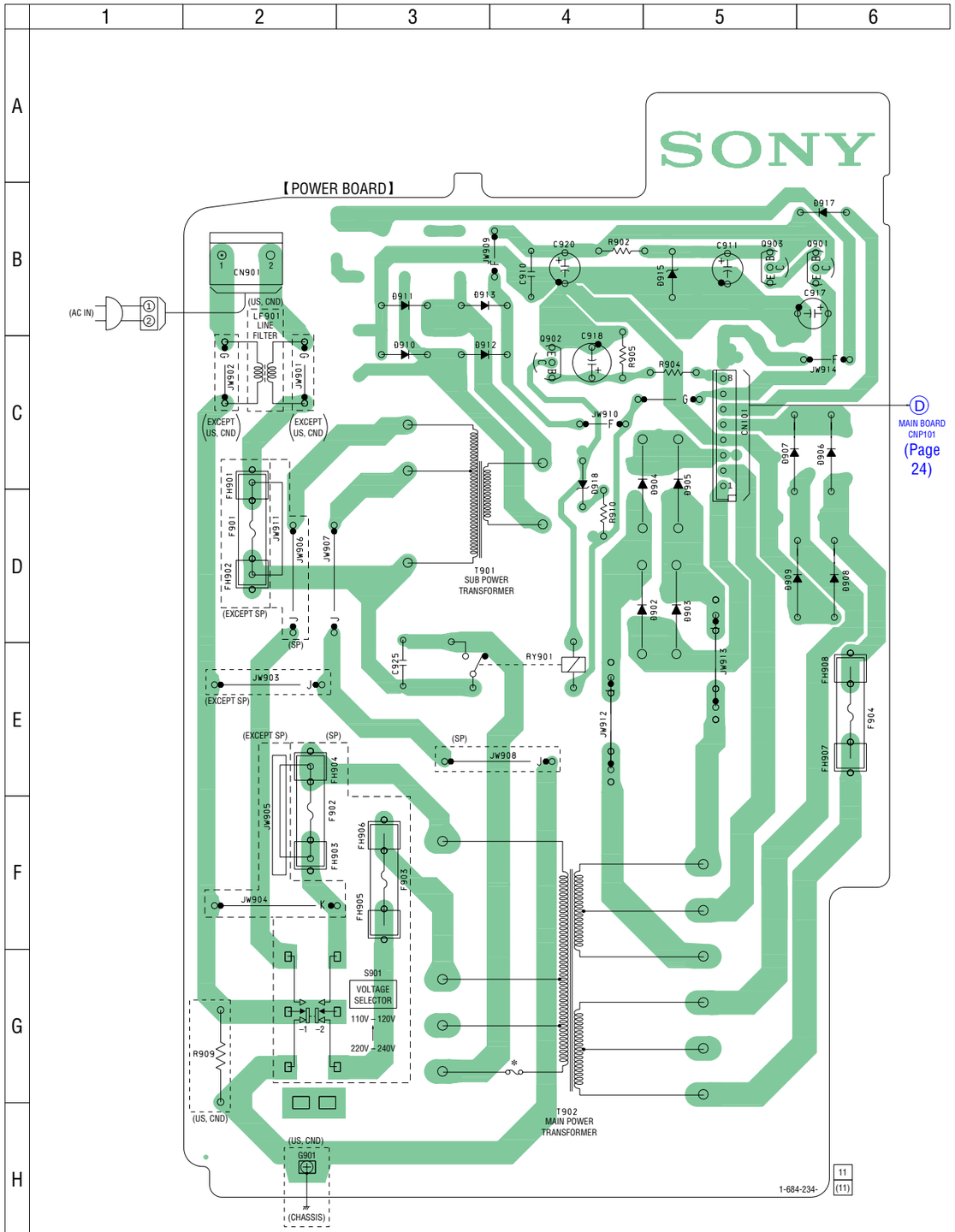
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : TUNER (FM/AM)

6-16. PRINTED WIRING BOARD – POWER Board –

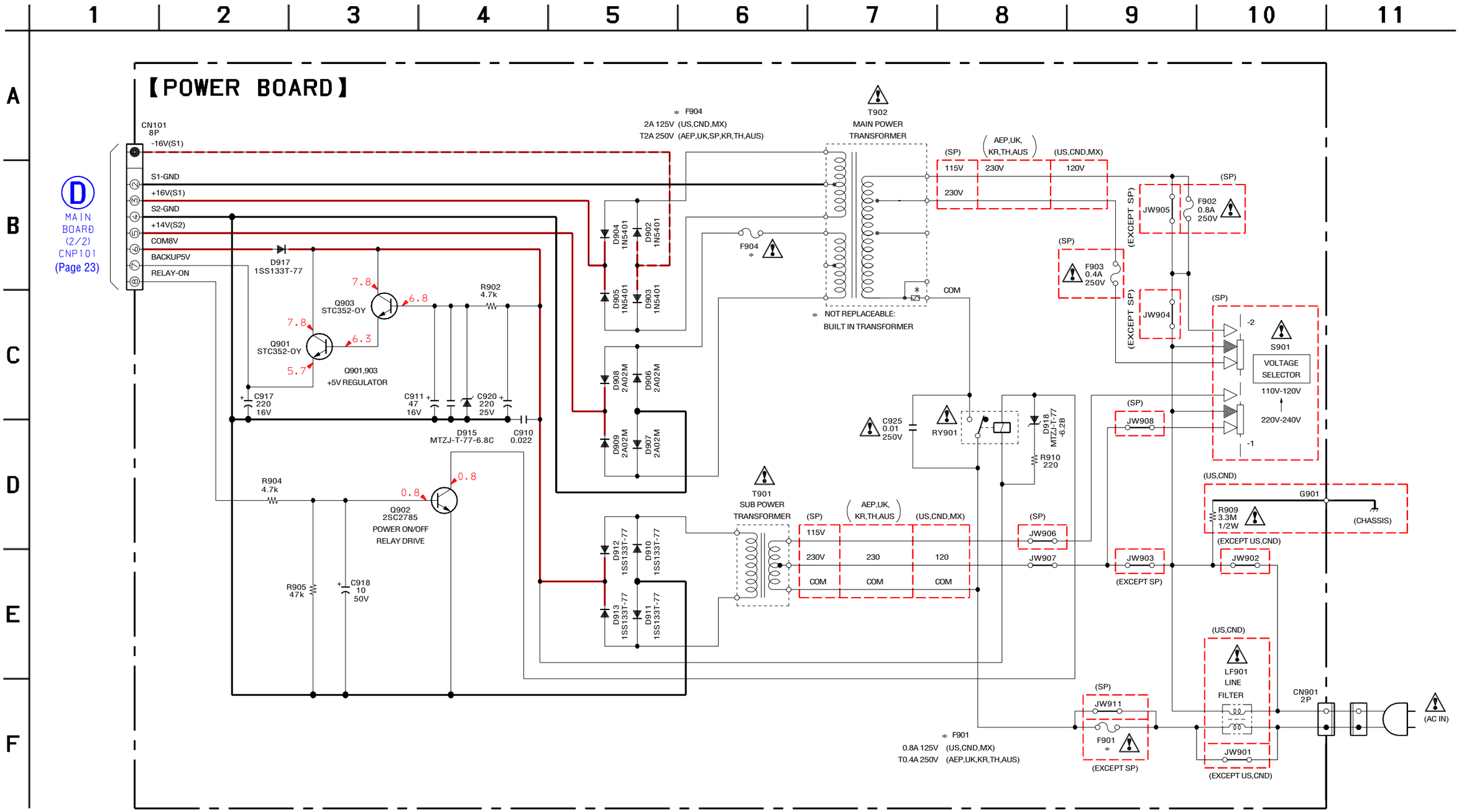
• See page 17 for Circuit Boards Location.

• **Semiconductor Location**

Ref. No.	Location
D902	D-5
D903	D-5
D904	C-5
D905	C-5
D906	C-6
D907	C-5
D908	D-6
D909	D-5
D910	C-3
D911	B-3
D912	C-3
D913	B-3
D915	B-5
D917	B-6
D918	C-4
Q901	B-6
Q902	C-4
Q903	B-5



6-17. SCHEMATIC DIAGRAM – POWER Board –

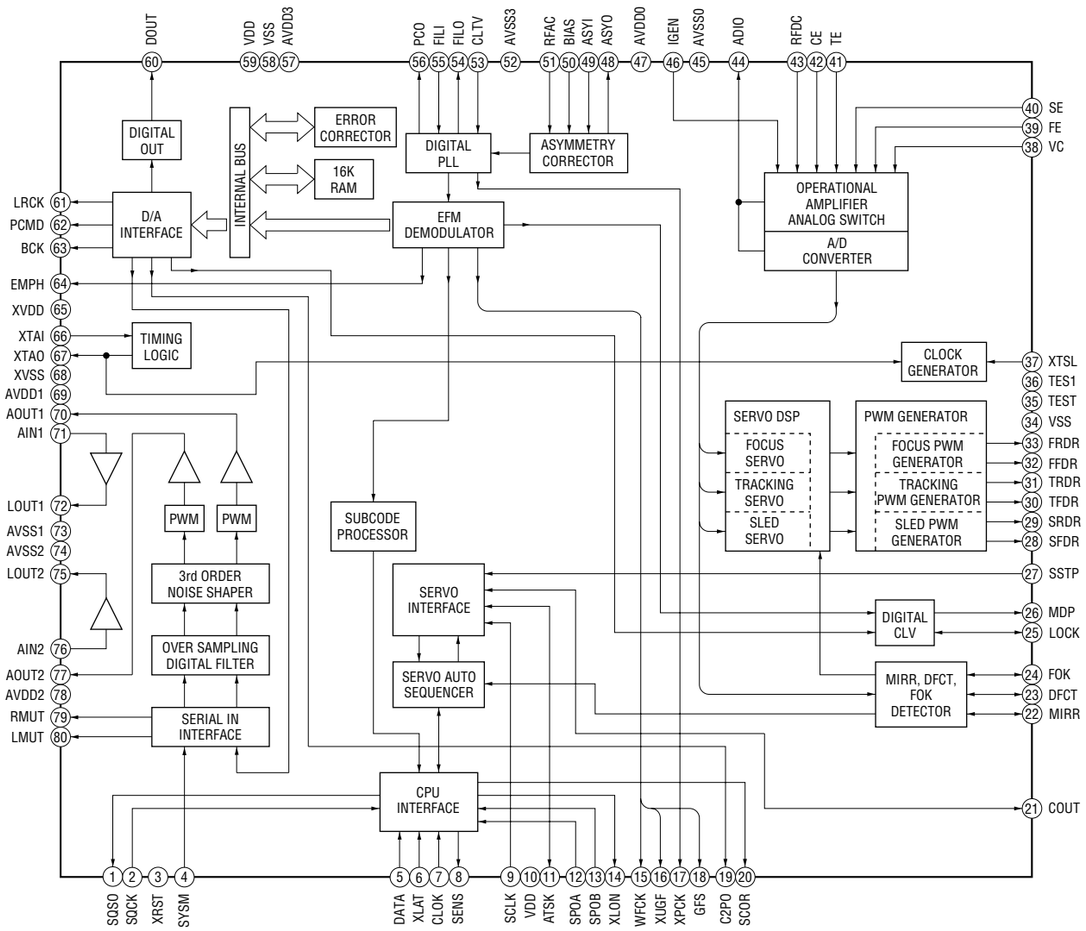


• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : TUNER (FM/AM)

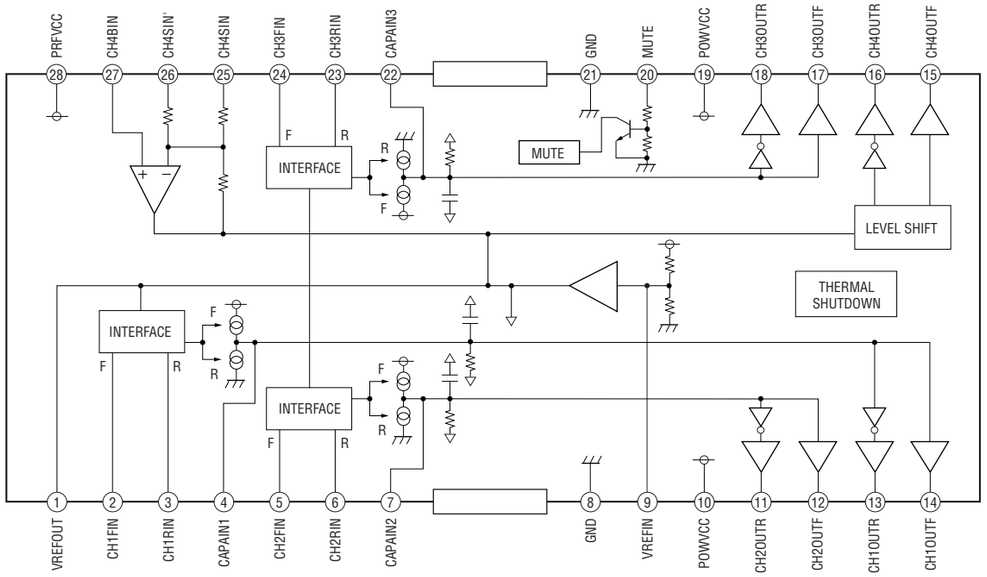
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

• **IC Block Diagrams**
– CD Board –

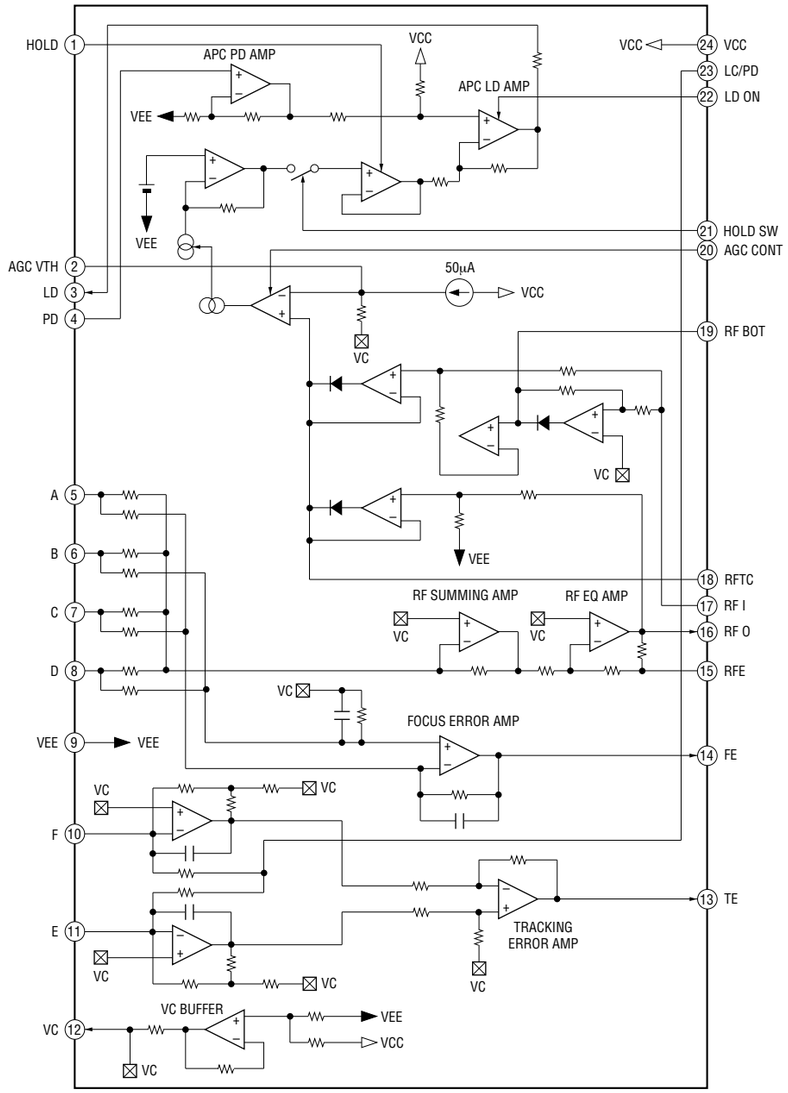
IC101 CXD2587Q



IC102 BA5974FP-E2

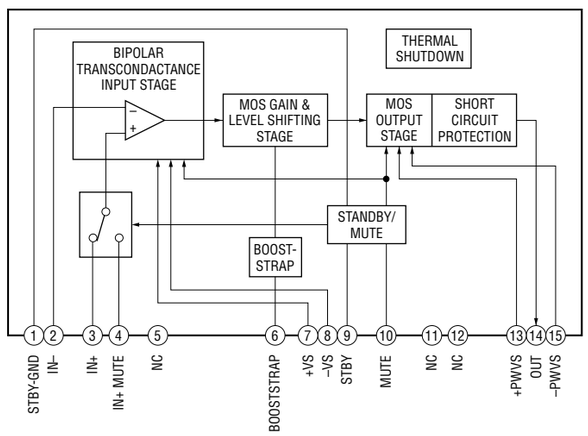


IC103 CXA2568M-T6

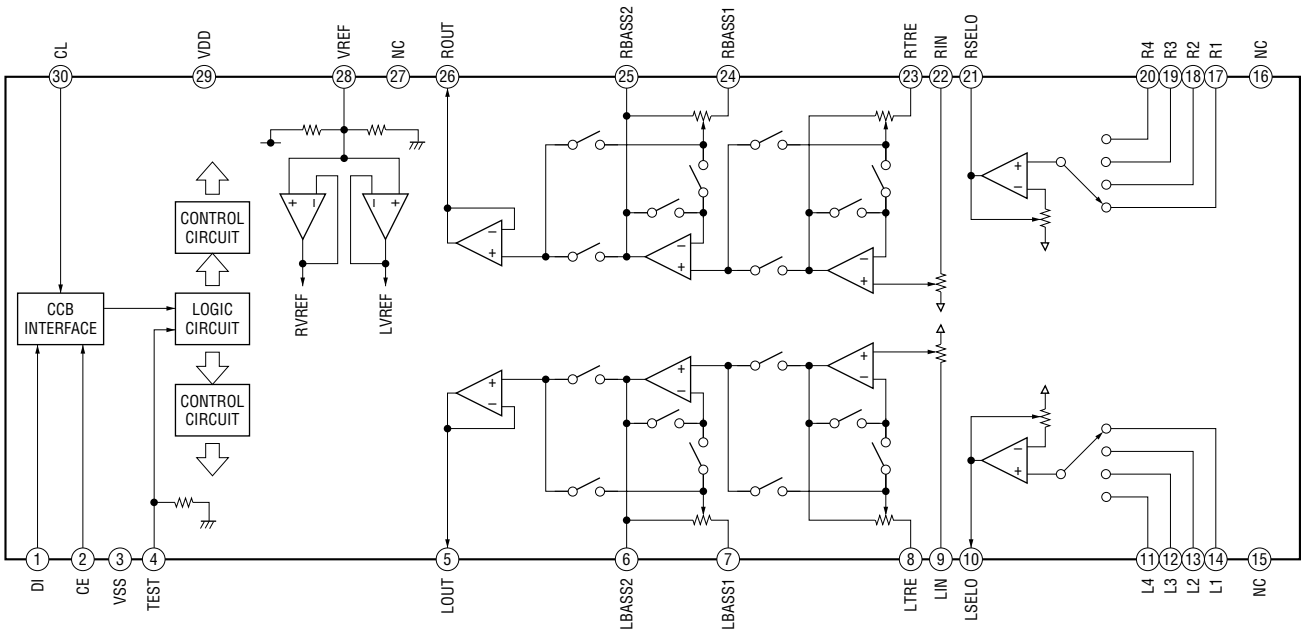


– MAIN Board –

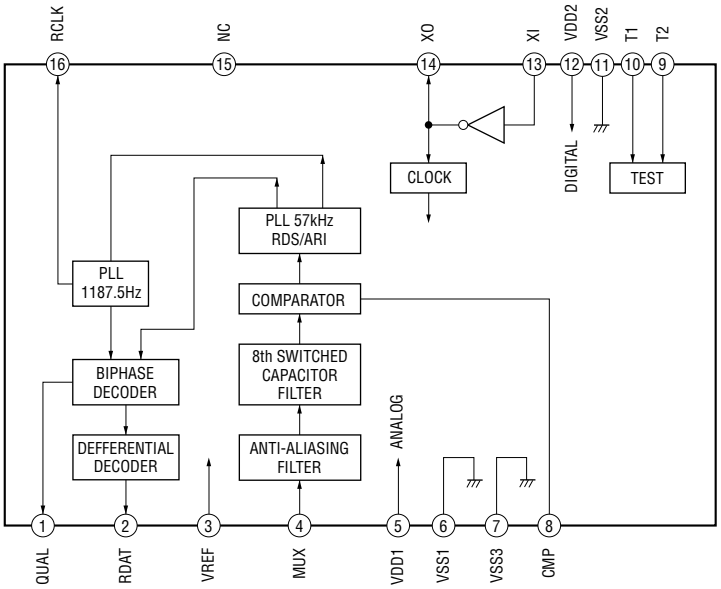
IC101, 201 TDA7296



IC323 LC75342

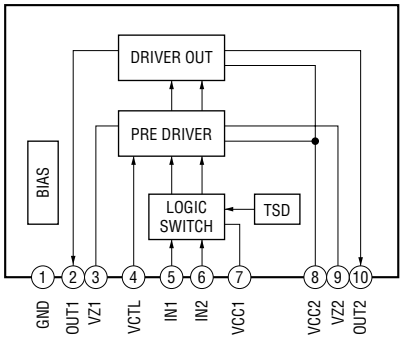


IC326 BU1924F-E2 (AEP, UK)



– CONTROL Board –

IC320 KA3082



6-18. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC801 CXP83124A-053Q (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	SENSOR	I	Tape end detect switch input terminal "H" input when the tape end detected
2	RDS-IN	I	Serial data transfer clock signal input from the RDS decoder (RDS decoder is used for the AEP and UK models)
3	SIRCS	I	Sircs remote control signal input
4	NC	—	Not used
5	TU-DATA	O	Serial data output to the tuner unit
6	T-MODE	I	Head position detect switch input terminal "L": forward direction, "H": reverse direction
7	REG-CON	O	Main system power supply on/off control signal output "H": power on
8	C-CLK/TU-CLK	O	Serial data transfer clock signal output to the digital signal processor (at CD function) Serial data transfer clock signal output to the tuner unit (at tuner function)
9	$\overline{\text{SPK PROTECT}}$	I	Protect on/off control signal input from the speaker protect circuit "L": protect on
10	CD-DATA	O	Serial data output to the digital signal processor
11	C-SQCK	O	Subcode Q data reading clock signal output to the digital signal processor
12	C-SQSO/ RDS-DATA	I	Subcode Q data input from the digital signal processor (at CD function) Serial data input from the RDS decoder (at tuner function) (RDS decoder is used for the AEP and UK models)
13	HOLD	O	Automatic power control hold signal output to the RF amplifier
14	ALC	O	Automatic limiter control signal output to the recording/playback equalizer amplifier "H": limiter on
15	CD-ON	O	Power supply on/off control signal output for the CD section (+5V) LED drive signal output of the CD indicator "H": CD power on (LED on)
16	$\overline{\text{REC-MUTE}}$	O	Recording muting on/off control signal output to the recording/playback equalizer amplifier "L": muting on
17	TUNED	I	Automatic limiter control signal input from the tuner unit
18	C-SENSE	I	Internal status detection monitor input from the digital signal processor
19	C-LATCH	O	Serial data latch pulse signal output to the digital signal processor
20	L-MUTE	O	Line muting on/off control signal output to the recording/playback equalizer amplifier "H": muting on
21	REC/$\overline{\text{PB}}$	O	Recording/playback selection signal output to the tape section "L": playback mode, "H": recording mode
22	AMP-MUTE	O	Muting on/off control signal output to the power amplifier "H": muting on
23	TU-COUNT	I	PLL serial data input from the tuner unit
24	H/P CHK	I	Headphone jack connection detection signal input terminal "L": no connected, "H": headphone connected
25	TU-ON	O	Power supply on/off control signal output for the tuner section (+9.5V) LED drive signal output of the TUNER indicator "H": tuner power on (LED on)
26	DSG	O	LED drive signal output of the DSG (Dynamic Sound Generator) indicator "H": LED on
27	CD-SYNC	O	LED drive signal output of the CD SYNCHRO indicator "H": LED on
28	SCK	O	Serial data transfer clock signal output to the electrical volume
29	SOL-CON	O	Trigger plunger on/off control signal output "H": plunger on
30	MOT-CON	O	Capstan/reel motor on/off control signal output "H": motor on
31	TU-CE	O	Chip enable signal output to the tuner unit
32	TC-SW	I	Half detect (side A and B) switch and cassette in detect switch input terminal (A/D input)
33	TRAY-SW	I	Disc tray open/close detect switch input terminal (A/D input) "L": disc tray open, "H": disc tray close
34 to 36	KEY3 to KEY1	I	Key input terminal (A/D input)
37	SIMUKE	I	Destination setting terminal (A/D input)

Pin No.	Pin Name	I/O	Description
38	$\overline{\text{RST}}$	I	System reset signal input "L": reset For several hundreds msec. after the power supply rises, "L": is input, then it changes to "H"
39	EXTAL1	I	Main system clock input terminal (4.19MHz)
40	XTAL1	O	Main system clock output terminal (4.19MHz)
41	VSS	—	Ground terminal
42	XTAL2	O	System clock output terminal Not used
43	EXTAL2	I	System clock input terminal Not used
44	AVREF	I	Reference voltage (+5V) input terminal (for A/D conversion)
45	AVSS	—	Ground terminal (for A/D conversion)
46	VL	O	Liquid crystal display bias on/off control signal output
47 to 49	VLC3 to VLC1	—	Power supply terminal for the liquid crystal display bias
50 to 53	COM0 to COM3	O	Common drive signal output to the liquid crystal display
54 to 85	SEG0 to SEG31	O	Segment drive signal output to the liquid crystal display
86	$\overline{\text{C-RST}}$	O	Reset signal output to the digital signal processor and motor/coil driver "L": reset
87	AU-CE	O	Chip enable signal output to the electrical volume
88	SDA	O	Serial data output to the electrical volume
89	VDD	—	Power supply terminal (+5V)
90	NC	—	Not used
91	VSS	—	Ground terminal
92	TX	O	Sub system clock output terminal (32.768kHz)
93	TEX	I	Sub system clock input terminal (32.768kHz)
94	TRAY-CLOSE	O	Motor drive signal (close direction) output to the loading motor driver "H" active
95	TRAY-OPEN	O	Motor drive signal (open direction) output to the loading motor driver "H" active
96	TC-ON	O	LED drive signal output of the TAPE indicator "H": LED on
97	AU-MUTE	O	Audio line muting on/off control signal output "H": muting on
98	STAND-BY LED	O	LED drive signal output of the standby indicator "H": LED on
99	WP	I	Wakeup control signal input
100	C-SCOR	I	Subcode sync (S0+S1) detection signal input from the digital signal processor

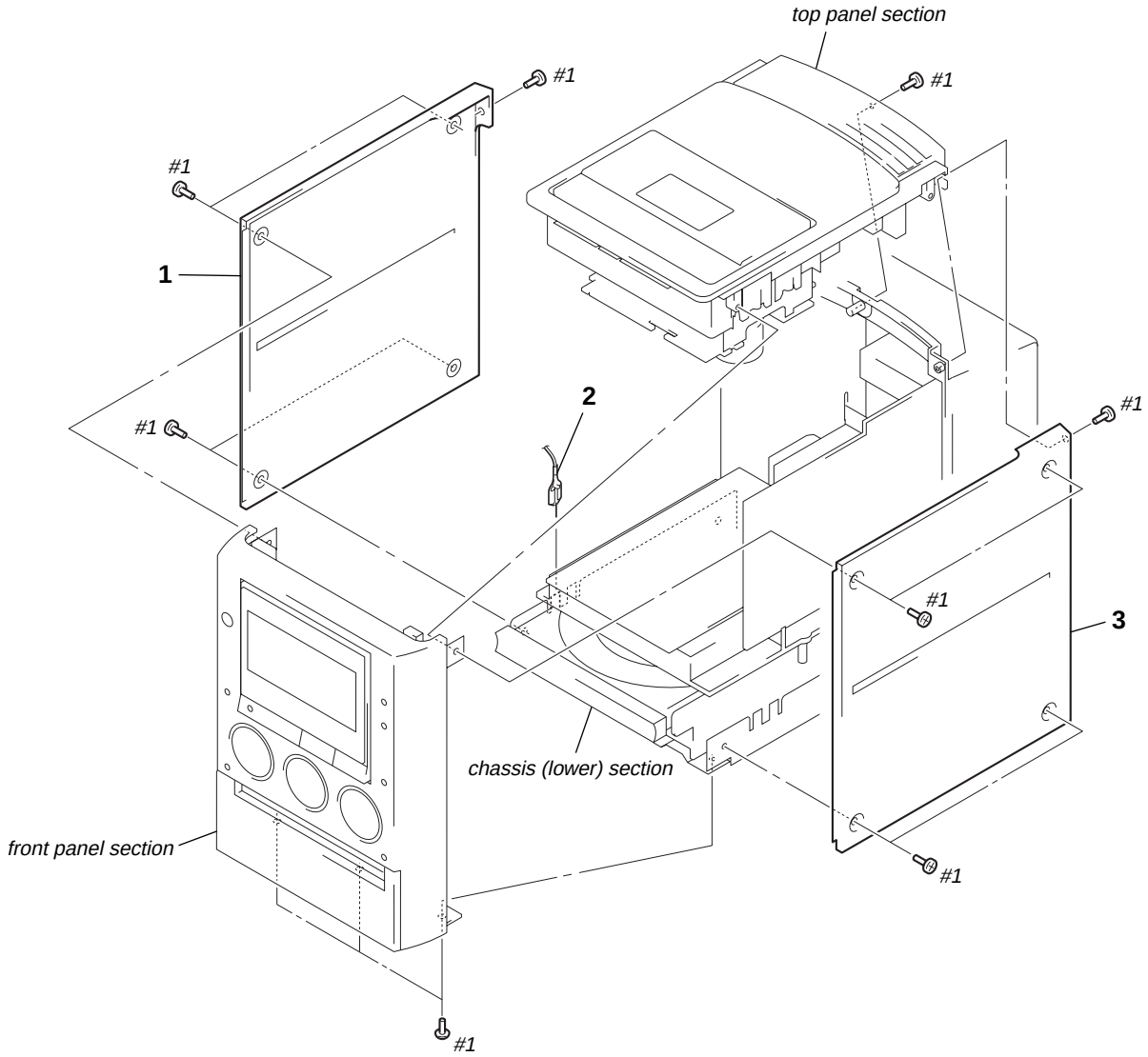
SECTION 7
EXPLODED VIEWS

NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Abbreviation
  AUS : Australian model KR : Korean model SP : Singapore model
  CND : Canadian model MX : Mexican model TH : Thai model
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Accessories are given in the last of the electrical parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

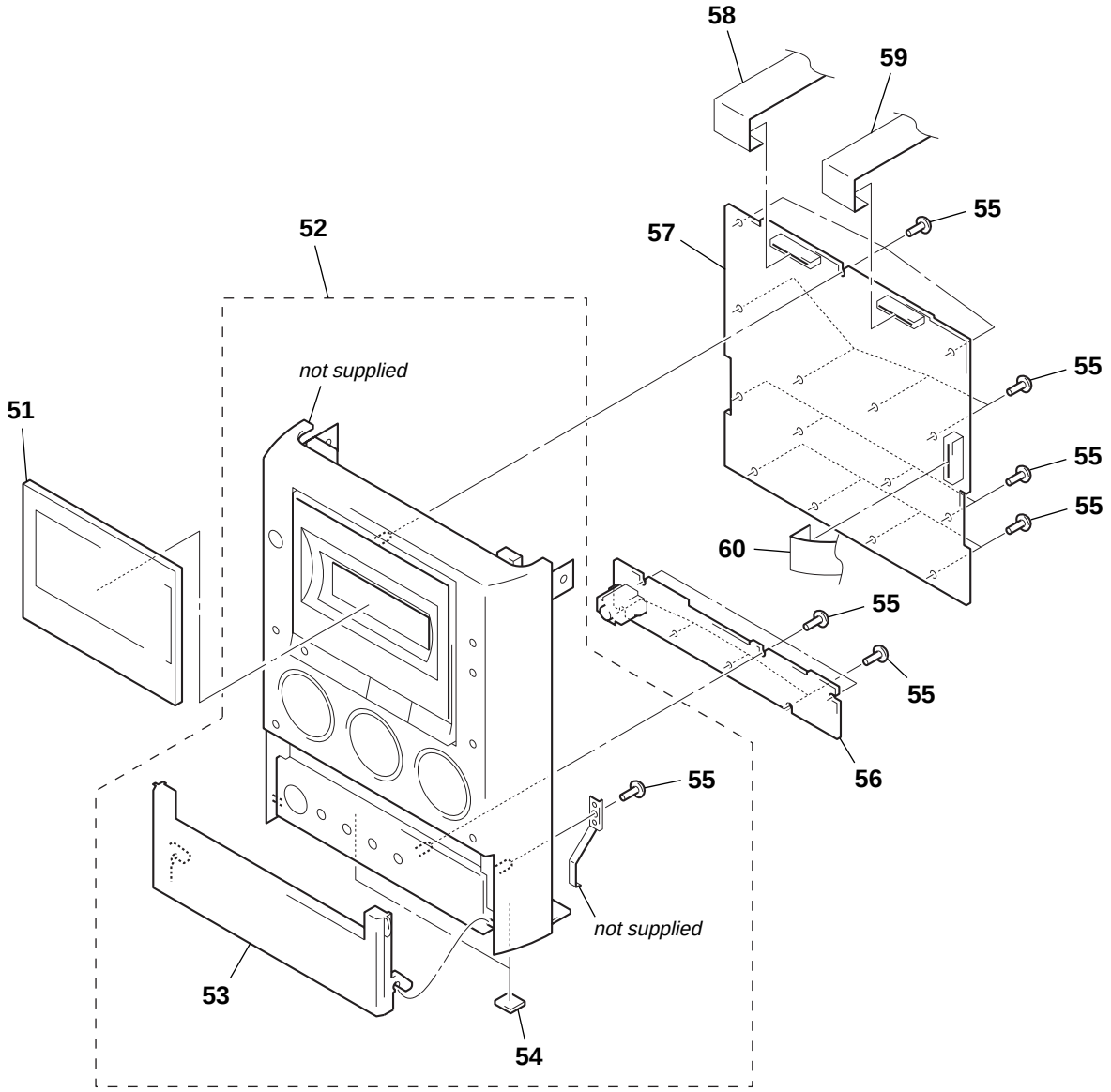
Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

7-1. PANEL (SIDE) SECTION



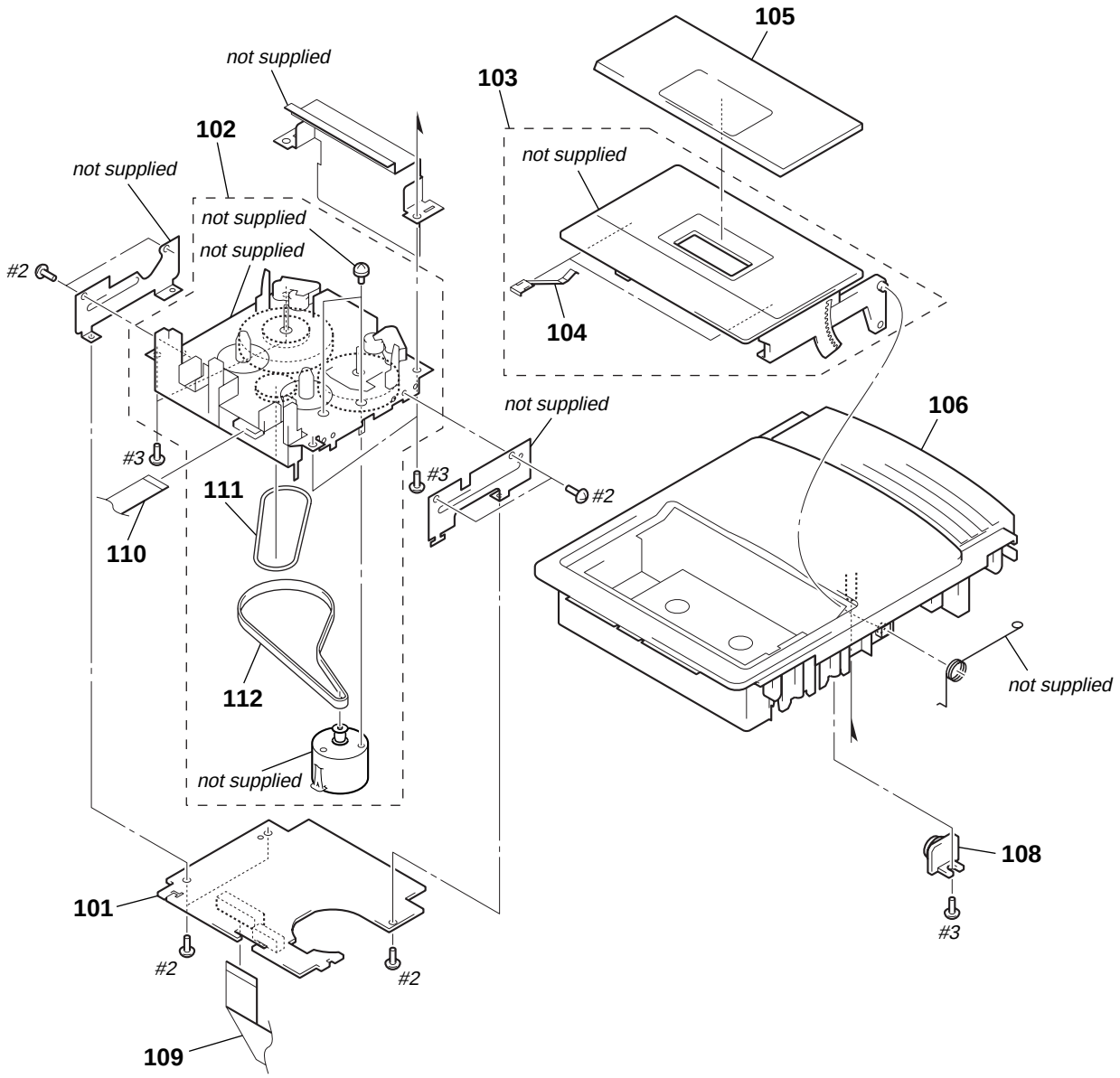
Ref. No.	Part No.	Description	Remark
1	4-238-706-01	PANEL (SIDE) (L) (SILVER)	
1	4-238-706-11	PANEL (SIDE) (L) (WHITE) (AEP, UK, SP)	
1	4-238-706-21	PANEL (SIDE) (L) (BLACK) (AEP, UK)	
1	4-238-706-31	PANEL (SIDE) (L) (WHITE) (US, CND)	
1	4-238-706-41	PANEL (SIDE) (L) (BLACK) (US, CND)	
2	1-823-149-11	LEAD (WITH CONNECTOR)	
3	4-238-707-01	PANEL (SIDE) (R) (SILVER)	
3	4-238-707-11	PANEL (SIDE) (R) (WHITE) (AEP, UK, SP)	
3	4-238-707-21	PANEL (SIDE) (R) (BLACK) (AEP, UK)	
3	4-238-707-31	PANEL (SIDE) (R) (WHITE) (US, CND)	
3	4-238-707-41	PANEL (SIDE) (R) (BLACK) (US, CND)	
#1	7-685-547-14	SCREW +BTP 3X10 TYPE2 N-S	

7-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	4-238-696-01	WINDOW, LCD (FOR SILVER, WHITE)	(AEP, UK)
51	4-238-696-11	WINDOW, LCD (FOR SILVER, WHITE)	(EXCEPT AEP, UK)
51	4-238-696-21	WINDOW, LCD (BLACK) (AEP, UK)	
51	4-238-696-31	WINDOW, LCD (BLACK) (US, CND)	
52	X-4954-494-1	PANEL SUB ASSY (FRONT) (SILVER)	
52	X-4954-495-1	PANEL SUB ASSY (FRONT) (WHITE)	(AEP, UK, SP)
52	X-4954-652-1	PANEL SUB ASSY, FRONT (BLACK) (AEP, UK)	
52	X-4954-654-1	PANEL SUB ASSY, FRONT (WHITE) (US, CND)	
52	X-4954-655-1	PANEL SUB ASSY, FRONT (BLACK) (US, CND)	
53	4-238-685-01	COVER (F) (SILVER)	
53	4-238-685-11	COVER (F) (WHITE)	
53	4-238-685-21	COVER (F) (BLACK)	
54	4-232-478-01	FOOT	
55	4-931-757-31	SCREW (DIA. 2.6X8) (IT3B), TAPPING	
56	1-684-231-11	JACK BOARD	
57	A-4728-250-A	SWITCH BOARD, COMPLETE (EXCEPT KR, TH)	
57	A-4729-437-A	SWITCH BOARD, COMPLETE (KR, TH)	
58	1-926-063-20	FFC CABLE 20P	
59	1-926-063-10	FFC CABLE 18P	
60	1-926-065-20	FFC CABLE 15P	

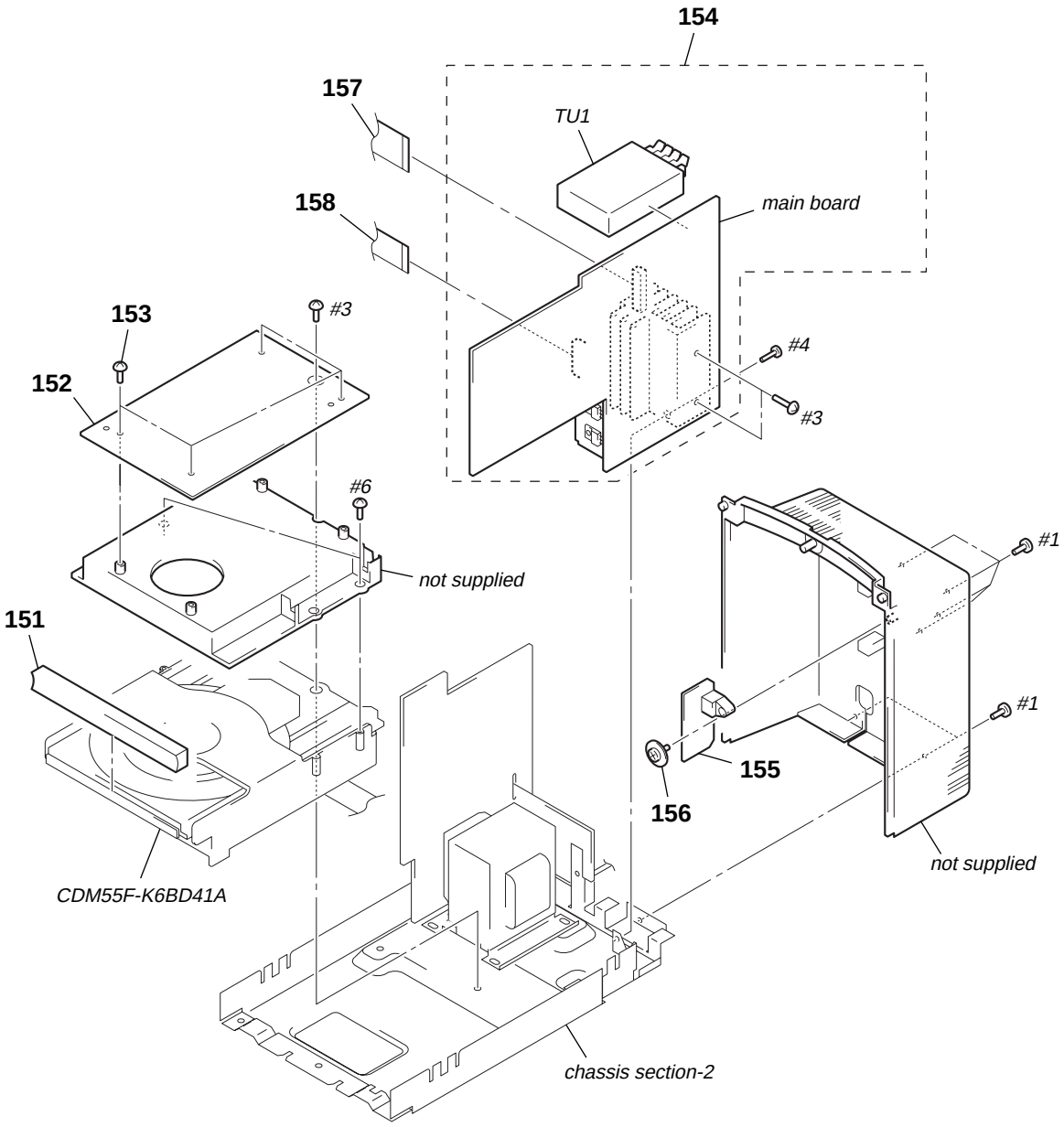
7-3. TOP PANEL SECTION



Ref. No.	Part No.	Description	Remark
101	A-4728-263-A	TC BOARD, COMPLETE	
102	1-796-353-11	DECK, MECHANICAL (TAPE)	
103	X-4954-501-1	HOLDER ASSY, CASSETTE (SILVER)	
103	X-4954-502-1	HOLDER ASSY, CASSETTE (WHITE)	
103	X-4954-666-1	HOLDER ASSY, CASSETTE (BLACK)	
104	4-234-557-01	SPRING (TAPE)	
105	4-238-683-01	WINDOW (CASSETTE) (SILVER)	
105	4-238-683-11	WINDOW (CASSETTE) (WHITE)	
105	4-238-683-21	WINDOW (CASSETTE) (BLACK)	
106	X-4954-499-1	PANEL SUB ASSY (TOP) (SILVER)	
106	X-4954-500-1	PANEL SUB ASSY (TOP)(WHITE)(AEP, UK, SP)	

Ref. No.	Part No.	Description	Remark
106	X-4954-649-1	PANEL SUB ASSY, TOP (WHITE) (US, CND)	
106	X-4954-650-1	PANEL SUB ASSY, TOP (BLACK) (US, CND)	
106	X-4954-651-1	PANEL SUB ASSY, TOP (BLACK) (AEP, UK)	
108	3-926-926-01	GEAR, DAMPER	
109	1-773-044-11	WIRE (FLAT TYPE) (17 CORE)	
110	1-926-062-30	FFC CABLE 8P	
111	4-241-659-01	BELT	
112	4-241-718-01	BELT (FLAT)	
#2	7-685-861-01	SCREW +BVTT 2.6X5 (S)	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	

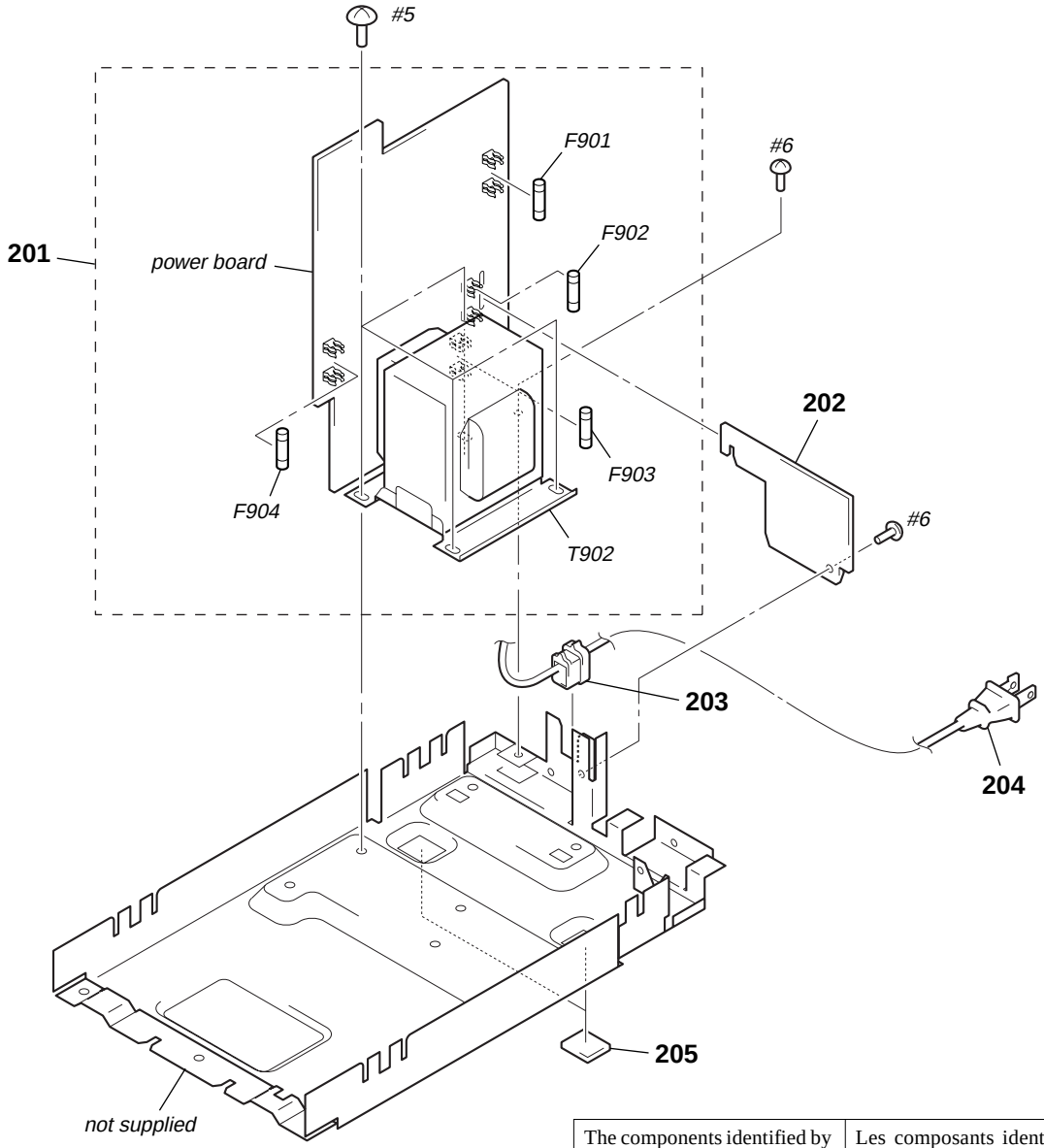
7-4. CHASSIS SECTION-1



Ref. No.	Part No.	Description	Remark
151	4-238-688-11	LID, CD (FOR SILVER, WHITE)	
151	4-238-688-21	LID, CD (BLACK)	
152	A-4676-452-A	CONTROL BOARD, COMPLETE (US, CND)	
152	A-4676-462-A	CONTROL BOARD, COMPLETE (MX)	
152	A-4676-468-A	CONTROL BOARD, COMPLETE (SP, AUS)	
152	A-4728-251-A	CONTROL BOARD, COMPLETE (AEP, UK)	
152	A-4729-435-A	CONTROL BOARD, COMPLETE (KR, TH)	
153	4-931-757-31	SCREW (DIA. 2.6X8) (IT3B), TAPPING	
154	A-4676-457-A	MAIN BOARD, COMPLETE (US, CND)	
154	A-4676-466-A	MAIN BOARD, COMPLETE (MX)	
154	A-4676-473-A	MAIN BOARD, COMPLETE (SP)	
154	A-4728-254-A	MAIN BOARD, COMPLETE (AEP, UK)	
154	A-4729-441-A	MAIN BOARD, COMPLETE (AUS)	
154	A-4729-442-A	MAIN BOARD, COMPLETE (KR)	

Ref. No.	Part No.	Description	Remark
154	A-4729-443-A	MAIN BOARD, COMPLETE (TH)	
155	1-684-235-11	VIDEO BOARD	
156	4-238-717-01	SCREW (WASHER), +BTP (3X8)	
157	1-926-063-50	FFC CABLE 21P	
158	1-926-063-40	FFC CABLE 17P	
TU1	A-4303-953-A	TUNER UNIT (TCB-023//K (CE))	(AEP, UK, KR, AUS)
TU1	A-4303-954-A	TUNER UNIT (TCB-023//K (UC))	(US, CND, MX, SP, TH)
#1	7-685-547-14	SCREW +BTP 3X10 TYPE2 N-S	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#4	7-685-548-19	SCREW +BTP 3X12 TYPE2 N-S	
#6	7-685-546-14	SCREW +BTP 3X8 TYPE2 N-S	

7-5. CHASSIS SECTION-2

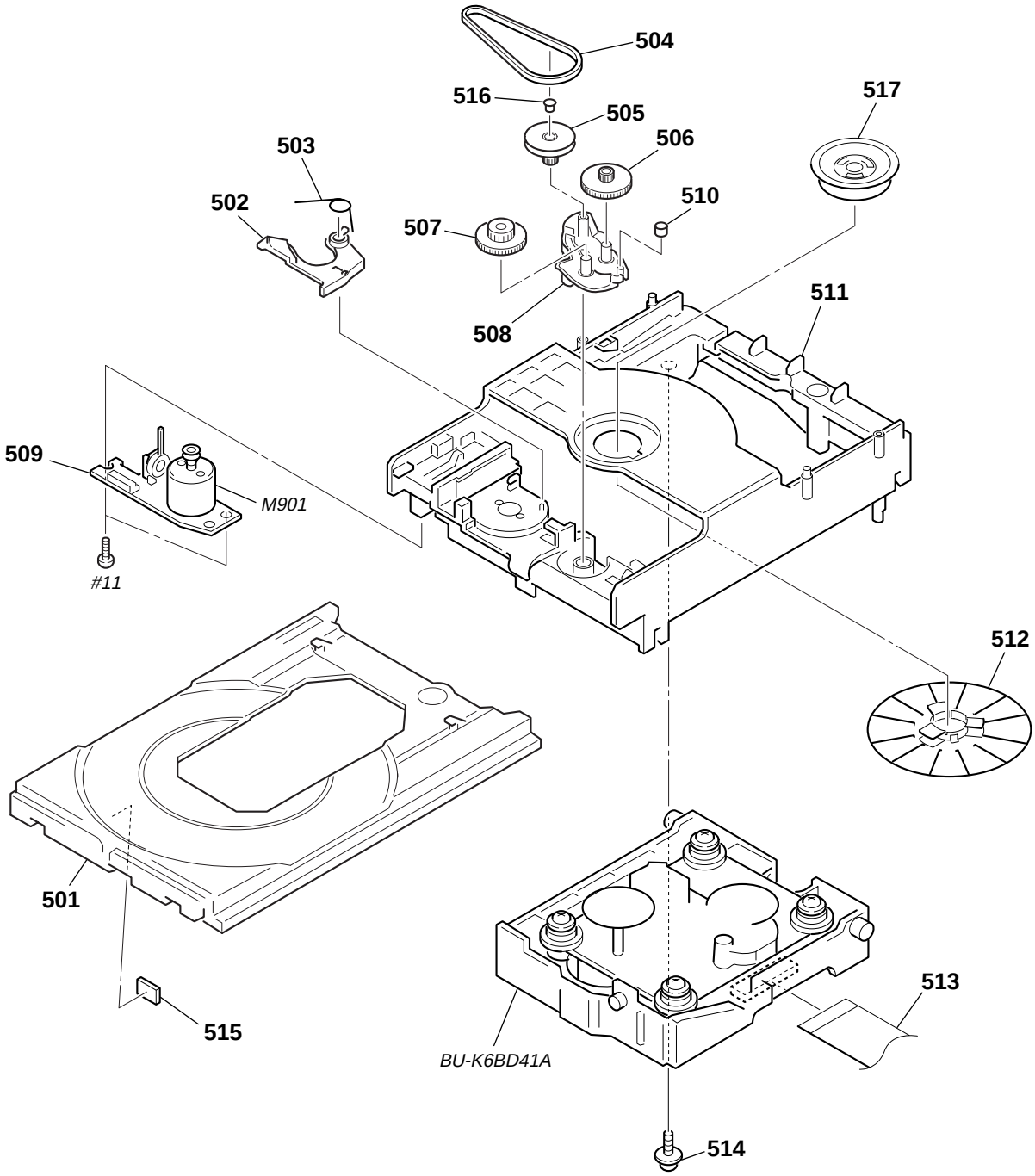


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
201	A-4676-455-A	POWER BOARD, COMPLETE (US, CND)	
201	A-4676-464-A	POWER BOARD, COMPLETE (MX)	
201	A-4676-471-A	POWER BOARD, COMPLETE (SP)	
201	A-4728-252-A	POWER BOARD, COMPLETE	(AEP, UK, KR, TH, AUS)
202	1-684-233-11	POWER RETAINER BOARD	
203	3-703-571-11	BUSHING (S) (4516), CORD (KR, TH)	
203	4-217-350-11	STOPPER, CORD (EXCEPT KR, TH)	
⚠204	1-558-943-31	CORD, POWER (TH)	
⚠204	1-696-169-11	CORD, POWER (AEP, UK, SP)	
⚠204	1-696-848-41	CORD, POWER (AUS)	
⚠204	1-769-079-21	CORD, POWER (KR)	
⚠204	1-775-789-81	CORD, POWER (MX)	
⚠204	1-783-532-11	CORD, POWER (US, CND)	
205	4-232-478-01	FOOT	

Ref. No.	Part No.	Description	Remark
⚠F901	1-533-445-11	FUSE, GLASS TUBE (DIA. 5) (0.8A/125V)	(US, CND, MX)
⚠F901	1-533-461-11	FUSE, GLASS TUBE (DIA. 5) (0.4A/250V)	(AEP, UK, KR, TH, AUS)
⚠F902	1-533-464-11	FUSE, GLASS TUBE (DIA. 5) (0.8A/250V) (SP)	
⚠F903	1-533-461-11	FUSE, GLASS TUBE (DIA. 5) (0.4A/250V) (SP)	
⚠F904	1-533-468-11	FUSE, GLASS TUBE (DIA. 5) (2A/250V)	(AEP, UK, SP, KR, TH, AUS)
⚠F904	1-576-478-11	FUSE, GLASS TUBE (2A/125V) (US, CND, MX)	
⚠T902	1-437-727-11	TRANSFORMER, POWER	(AEP, UK, KR, TH, AUS)
⚠T902	1-437-728-11	TRANSFORMER, POWER (SP)	
⚠T902	1-437-729-11	TRANSFORMER, POWER (US, CND, MX)	
#5	7-685-659-14	SCREW +BVTP 4X8 TYPE2 N-S	
#6	7-685-546-14	SCREW +BTP 3X8 TYPE2 N-S	

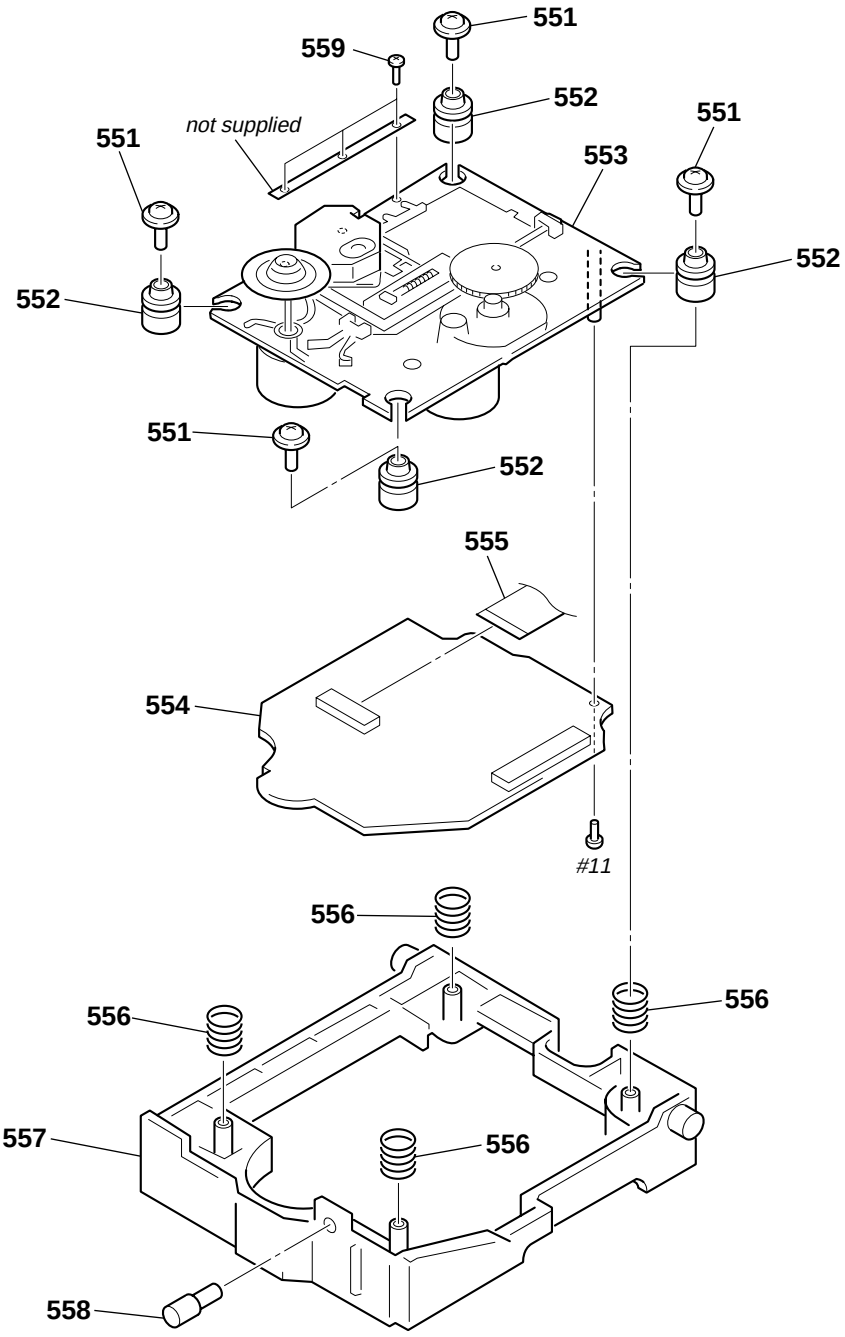
7-6. CD MECHANISM DECK (CDM55F-K6BD41A)



Ref. No.	Part No.	Description	Remark
501	4-224-894-01	TRAY	
502	4-220-229-01	LEVER (SW)	
503	4-220-239-01	SPRING, TORSION	
504	4-221-816-01	BELT (CDM55)	
505	4-220-234-01	PULLEY (LDG)	
506	4-220-237-02	GEAR (A)	
507	4-220-238-01	GEAR (B)	
508	4-220-233-01	CAM (CDM55)	
509	1-681-807-11	LOADING BOARD	
510	4-221-815-01	ROLLER	

Ref. No.	Part No.	Description	Remark
511	4-231-779-01	CHASSIS (F)	
512	A-4735-081-A	PULLEY (AT-55F) ASSY	
513	1-792-411-11	CABLE, FLEXIBLE FLAT (19 CORE)	
514	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	
515	4-925-315-31	DAMPER	
516	4-227-598-01	SPACER (55)	
517	A-4735-082-A	MAGNET ASSY	
M901	A-2004-893-A	MOTOR (LD) ASSY (LOADING)	
#11	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	

7-7. BASE UNIT (BU-K6BD41A)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
551	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	
552	4-229-005-01	INSULATOR	
⚠553	A-4735-357-A	OP BASE ASSY (KSM-213DHAP/ZRP1)	
554	A-4725-626-A	CD BOARD, COMPLETE	
555	1-757-055-11	WIRE, PARALLEL (FFC) (16 CORE)	
556	4-229-004-01	SPRING, COMPRESSION	
557	4-231-780-01	HOLDER (213D)	
558	4-221-817-02	SHAFT (BU)	
559	2-641-386-01	SCREW (2X5), TAPPING (S)	
#11	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	

SECTION 8
ELECTRICAL PARTS LIST

CD

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Abbreviation
  AUS : Australian model
  CND : Canadian model
  KR : Korean model
  MX : Mexican model
  SP : Singapore model
  TH : Thai model
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
	A-4725-626-A	CD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C102	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C103	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C104	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C108	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C109	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C110	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C111	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C112	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C114	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C115	1-126-382-11	ELECT	100uF	20%	16V
C116	1-126-382-11	ELECT	100uF	20%	16V
C117	1-126-382-11	ELECT	100uF	20%	16V
C118	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C119	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C121	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C122	1-126-382-11	ELECT	100uF	20%	16V
C123	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C124	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C125	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C126	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C127	1-126-382-11	ELECT	100uF	20%	16V
C129	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C130	1-115-156-11	CERAMIC CHIP	1uF		10V
C131	1-124-233-11	ELECT	10uF	20%	16V
C133	1-115-156-11	CERAMIC CHIP	1uF		10V
C140	1-115-156-11	CERAMIC CHIP	1uF		10V
C141	1-115-156-11	CERAMIC CHIP	1uF		10V
C143	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C145	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C146	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C147	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C148	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C153	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C159	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C160	1-124-257-00	ELECT	2.2uF	20%	50V
C162	1-126-382-11	ELECT	100uF	20%	16V
C163	1-126-382-11	ELECT	100uF	20%	16V
C165	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C167	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C168	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C171	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C172	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C181	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C182	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
		< CONNECTOR >			
CN101	1-691-078-41	HOUSING, CONNECTOR 19P			
CN102	1-785-953-11	CONNECTOR, FFC/FPC 16P			
		< FERRITE BEAD >			
FB101	1-469-144-21	FERRITE	0uH		
FB102	1-469-144-21	FERRITE	0uH		
FB103	1-469-144-21	FERRITE	0uH		
FB104	1-469-144-21	FERRITE	0uH		
		< IC >			
IC101	8-752-386-85	IC CXD2587Q			
IC102	8-759-549-28	IC BA5974FP-E2			
IC103	8-752-085-51	IC CXA2568M-T6			
		< COIL >			
L101	1-410-993-11	INDUCTOR CHIP	1uH		
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR	MSB710-R		
		< RESISTOR >			
R101	1-216-835-11	METAL CHIP	15K	5%	1/10W
R102	1-216-845-11	METAL CHIP	100K	5%	1/10W
R103	1-216-835-11	METAL CHIP	15K	5%	1/10W
R104	1-216-839-11	METAL CHIP	33K	5%	1/10W
R105	1-216-833-11	METAL CHIP	10K	5%	1/10W
R106	1-216-821-11	METAL CHIP	1K	5%	1/10W
R107	1-216-833-11	METAL CHIP	10K	5%	1/10W
R108	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R109	1-216-857-11	METAL CHIP	1M	5%	1/10W
R110	1-216-809-11	METAL CHIP	100	5%	1/10W
R111	1-216-857-11	METAL CHIP	1M	5%	1/10W
R113	1-216-857-11	METAL CHIP	1M	5%	1/10W
R114	1-216-833-11	METAL CHIP	10K	5%	1/10W
R116	1-216-797-11	METAL CHIP	10	5%	1/10W
R117	1-216-821-11	METAL CHIP	1K	5%	1/10W

CD CONTROL

Ref. No.	Part No.	Description			Remark
R118	1-216-809-11	METAL CHIP	100	5%	1/10W
R119	1-216-817-11	METAL CHIP	470	5%	1/10W
R123	1-216-833-11	METAL CHIP	10K	5%	1/10W
R124	1-216-845-11	METAL CHIP	100K	5%	1/10W
R131	1-216-809-11	METAL CHIP	100	5%	1/10W
R132	1-216-863-11	RES-CHIP	3.3M	5%	1/10W
R143	1-216-848-11	METAL CHIP	180K	5%	1/10W
R144	1-216-848-11	METAL CHIP	180K	5%	1/10W
R147	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R148	1-216-797-11	METAL CHIP	10	5%	1/10W
R149	1-216-797-11	METAL CHIP	10	5%	1/10W
R158	1-216-852-11	METAL CHIP	390K	5%	1/10W
R159	1-216-847-11	METAL CHIP	150K	5%	1/10W
R160	1-216-833-11	METAL CHIP	10K	5%	1/10W
R161	1-216-821-11	METAL CHIP	1K	5%	1/10W
R162	1-216-847-11	METAL CHIP	150K	5%	1/10W
R171	1-218-291-11	RES-CHIP	16K	5%	1/10W
R172	1-216-833-11	METAL CHIP	10K	5%	1/10W
R173	1-216-835-11	METAL CHIP	15K	5%	1/10W
R181	1-218-291-11	RES-CHIP	16K	5%	1/10W
R182	1-216-833-11	METAL CHIP	10K	5%	1/10W
R183	1-216-835-11	METAL CHIP	15K	5%	1/10W
		< COMPOSITION CIRCUIT BLOCK >			
RN101	1-233-576-11	RES, CHIP NETWORK 100			
		< SWITCH >			
S101	1-771-853-11	SWITCH, DETECTION (LIMIT)			
		< VIBRATOR >			
X101	1-781-947-11	VIBRATOR, CRYSTAL (16.9344MHz)			
**********					
	A-4676-452-A	CONTROL BOARD, COMPLETE (US, CND)			
	A-4676-462-A	CONTROL BOARD, COMPLETE (MX)			
	A-4676-468-A	CONTROL BOARD, COMPLETE (SP, AUS)			
	A-4728-251-A	CONTROL BOARD, COMPLETE (AEP, UK)			
	A-4729-435-A	CONTROL BOARD, COMPLETE (KR, TH)			
		**********			
		< CAPACITOR >			
C314	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C315	1-126-947-11	ELECT	47uF	20%	35V
C316	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C388	1-162-927-11	CERAMIC CHIP	100PF	5%	50V (AEP, UK)
C802	1-115-456-21	CAPACITOR	0.22F		5.5V
C803	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C804	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C806	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C807	1-162-975-11	CERAMIC CHIP	24PF	5%	50V
C808	1-162-975-11	CERAMIC CHIP	24PF	5%	50V
C809	1-115-156-11	CERAMIC CHIP	1uF		10V
C810	1-104-665-11	ELECT	100uF	20%	10V
C811	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C812	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C813	1-126-964-11	ELECT	10uF	20%	50V
C814	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C815	1-115-156-11	CERAMIC CHIP	1uF		10V
C816	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C817	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C818	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C819	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C820	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C823	1-126-963-11	ELECT	4.7uF	20%	50V
C824	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C825	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C827	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C828	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C829	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C830	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
		< CONNECTOR >			
CN801	1-784-776-11	CONNECTOR, FFC 15P			
CN802	1-785-950-11	CONNECTOR, FFC/FPC 18P			
CN803	1-785-949-11	CONNECTOR, FFC/FPC 20P			
CN804	1-784-778-11	CONNECTOR, FFC 17P			
CN805	1-784-780-11	CONNECTOR, FFC 19P			
CN806	1-568-838-11	CONNECTOR, FFC 21P			
* CN807	1-568-954-11	PIN, CONNECTOR 5P			
* CN809	1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P			
		< DIODE >			
D304	8-719-921-40	DIODE MTZJ-4.7C			
D321	8-719-991-33	DIODE 1SS133T-77 (AEP, UK)			
D801	8-719-991-33	DIODE 1SS133T-77			
D802	8-719-991-33	DIODE 1SS133T-77			
		< IC >			
IC320	8-759-584-65	IC KA3082			
IC801	8-752-930-03	IC CXP83124A-053Q			
IC803	8-759-652-68	IC BMR-0301H			
		< RESISTOR >			
JR801	1-216-864-11	METAL CHIP	0	5%	1/10W
JR803	1-216-864-11	METAL CHIP	0	5%	1/10W
JR804	1-216-864-11	METAL CHIP	0	5%	1/10W
JR805	1-216-864-11	METAL CHIP	0	5%	1/10W
JR806	1-216-864-11	METAL CHIP	0	5%	1/10W
		< COIL >			
L301	1-410-324-11	INDUCTOR	4.7uH		
L302	1-412-002-31	INDUCTOR CHIP	4.7uH		
L303	1-412-002-31	INDUCTOR CHIP	4.7uH		
L304	1-410-997-31	INDUCTOR CHIP	2.2uH		
		< TRANSISTOR >			
Q800	8-729-055-94	TRANSISTOR	SRC1202SF		
Q801	8-729-055-94	TRANSISTOR	SRC1202SF		
Q802	8-729-055-91	TRANSISTOR	SRA2202SF		
Q803	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q804	8-729-055-94	TRANSISTOR	SRC1202SF		
		< RESISTOR >			
R308	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R309	1-216-797-11	METAL CHIP	10	5%	1/10W

Ref. No.	Part No.	Description			Remark
R509	1-216-833-11	METAL CHIP	10K	5%	1/10W
R510	1-216-833-11	METAL CHIP	10K	5%	1/10W
R511	1-216-833-11	METAL CHIP	10K	5%	1/10W
R801	1-216-821-11	METAL CHIP	1K	5%	1/10W
R802	1-216-821-11	METAL CHIP	1K	5%	1/10W
R803	1-216-821-11	METAL CHIP	1K	5%	1/10W
R804	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R805	1-216-821-11	METAL CHIP	1K	5%	1/10W
R806	1-216-821-11	METAL CHIP	1K	5%	1/10W
R807	1-216-821-11	METAL CHIP	1K	5%	1/10W
R808	1-216-821-11	METAL CHIP	1K	5%	1/10W
R809	1-216-821-11	METAL CHIP	1K	5%	1/10W
R810	1-216-821-11	METAL CHIP	1K	5%	1/10W
R811	1-216-821-11	METAL CHIP	1K	5%	1/10W
R812	1-216-821-11	METAL CHIP	1K	5%	1/10W
R813	1-216-821-11	METAL CHIP	1K	5%	1/10W
R814	1-216-821-11	METAL CHIP	1K	5%	1/10W
R815	1-216-821-11	METAL CHIP	1K	5%	1/10W
R816	1-216-821-11	METAL CHIP	1K	5%	1/10W
R817	1-216-821-11	METAL CHIP	1K	5%	1/10W
R818	1-216-821-11	METAL CHIP	1K	5%	1/10W
R819	1-216-821-11	METAL CHIP	1K	5%	1/10W
R820	1-216-821-11	METAL CHIP	1K	5%	1/10W
R821	1-216-821-11	METAL CHIP	1K	5%	1/10W
R822	1-216-821-11	METAL CHIP	1K	5%	1/10W
R823	1-216-821-11	METAL CHIP	1K	5%	1/10W
R824	1-216-821-11	METAL CHIP	1K	5%	1/10W
R825	1-216-809-11	METAL CHIP	100	5%	1/10W
R826	1-216-821-11	METAL CHIP	1K	5%	1/10W
R827	1-216-821-11	METAL CHIP	1K	5%	1/10W
R828	1-216-821-11	METAL CHIP	1K	5%	1/10W
R829	1-216-821-11	METAL CHIP	1K	5%	1/10W
R830	1-216-821-11	METAL CHIP	1K	5%	1/10W
R831	1-216-821-11	METAL CHIP	1K	5%	1/10W
R832	1-216-821-11	METAL CHIP	1K	5%	1/10W
R833	1-216-821-11	METAL CHIP	1K	5%	1/10W
R834	1-216-821-11	METAL CHIP	1K	5%	1/10W
R835	1-216-821-11	METAL CHIP	1K	5%	1/10W
R836	1-216-821-11	METAL CHIP	1K	5%	1/10W
R837	1-216-821-11	METAL CHIP	1K	5%	1/10W
R838	1-216-841-11	METAL CHIP	47K	5%	1/10W
R839	1-216-817-11	METAL CHIP	470	5%	1/10W
R840	1-216-833-11	METAL CHIP	10K	5%	1/10W
R841	1-216-821-11	METAL CHIP	1K	5%	1/10W (US, CND)
R841	1-216-827-11	METAL CHIP	3.3K	5%	1/10W (AEP, UK)
R841	1-216-833-11	METAL CHIP	10K	5%	1/10W (MX)
R841	1-216-839-11	METAL CHIP	33K	5%	1/10W (SP, KR, TH, AUS)
R842	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R843	1-216-833-11	METAL CHIP	10K	5%	1/10W
R844	1-216-821-11	METAL CHIP	1K	5%	1/10W
R845	1-216-821-11	METAL CHIP	1K	5%	1/10W
R846	1-216-837-11	METAL CHIP	22K	5%	1/10W
R847	1-216-833-11	METAL CHIP	10K	5%	1/10W
R848	1-216-833-11	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R849	1-216-821-11	METAL CHIP	1K	5%	1/10W
R850	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R851	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R852	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R853	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R854	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R855	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R856	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R857	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R858	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R859	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R860	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R861	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R862	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R863	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R864	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R865	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R866	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R867	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R868	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R869	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R870	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R871	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R872	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R873	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R874	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R875	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R876	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R877	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R878	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R879	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R880	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R881	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R882	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R883	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R884	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R885	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R886	1-216-821-11	METAL CHIP	1K	5%	1/10W
R887	1-216-821-11	METAL CHIP	1K	5%	1/10W
R888	1-216-821-11	METAL CHIP	1K	5%	1/10W
R889	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R890	1-216-821-11	METAL CHIP	1K	5%	1/10W
R891	1-216-821-11	METAL CHIP	1K	5%	1/10W
R892	1-216-817-11	METAL CHIP	470	5%	1/10W
R893	1-216-825-11	METAL CHIP	2.2K	5%	1/10W (AEP, UK)
R893	1-216-833-11	METAL CHIP	10K	5%	1/10W (MX, SP, KR, TH, AUS)
R893	1-216-864-11	METAL CHIP	0	5%	1/10W (US, CND)
R894	1-216-821-11	METAL CHIP	1K	5%	1/10W
R895	1-216-821-11	METAL CHIP	1K	5%	1/10W
R896	1-216-821-11	METAL CHIP	1K	5%	1/10W
R897	1-216-821-11	METAL CHIP	1K	5%	1/10W
R898	1-216-821-11	METAL CHIP	1K	5%	1/10W
R899	1-216-821-11	METAL CHIP	1K	5%	1/10W
R900	1-216-821-11	METAL CHIP	1K	5%	1/10W
R901	1-216-841-11	METAL CHIP	47K	5%	1/10W

CONTROL | JACK | LOADING | MAIN

Ref. No.	Part No.	Description			Remark
R902	1-216-845-11	METAL CHIP	100K	5%	1/10W
R903	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R904	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R905	1-216-845-11	METAL CHIP	100K	5%	1/10W
R906	1-216-841-11	METAL CHIP	47K	5%	1/10W
R907	1-216-821-11	METAL CHIP	1K	5%	1/10W
R908	1-216-821-11	METAL CHIP	1K	5%	1/10W
R909	1-216-821-11	METAL CHIP	1K	5%	1/10W
R910	1-216-821-11	METAL CHIP	1K	5%	1/10W
R911	1-216-821-11	METAL CHIP	1K	5%	1/10W
R912	1-216-821-11	METAL CHIP	1K	5%	1/10W
R913	1-216-821-11	METAL CHIP	1K	5%	1/10W
R914	1-216-821-11	METAL CHIP	1K	5%	1/10W
		< VIBRATOR >			
X800	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			
X801	1-579-901-11	VIBRATOR, CERAMIC (4.19MHz)			
**********					
	1-684-231-11	JACK BOARD			
		**********			
		< CAPACITOR >			
C801	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V (US, CND, MX)
		< DIODE >			
D820	8-719-988-61	DIODE 1SS355TE-17			(AEP, UK, SP, KR, TH, AUS)
D821	8-719-988-61	DIODE 1SS355TE-17			(AEP, UK, SP, KR, TH, AUS)
		< FERRITE BEAD >			
FB803	1-414-813-11	FERRITE	0uH		
		< JACK >			
J301	1-794-453-11	JACK (PHONES)			
		< RESISTOR >			
JR510	1-216-864-11	METAL CHIP	0	5%	1/10W
JR511	1-216-864-11	METAL CHIP	0	5%	1/10W
		< COIL >			
L101	1-412-002-31	INDUCTOR CHIP	4.7uH		
L201	1-412-002-31	INDUCTOR CHIP	4.7uH		
L202	1-410-989-11	INDUCTOR CHIP	0.47uH		
		< RESISTOR >			
R587	1-216-833-11	METAL CHIP	10K	5%	1/10W
R590	1-216-837-11	METAL CHIP	22K	5%	1/10W
R591	1-216-821-11	METAL CHIP	1K	5%	1/10W
R593	1-216-841-11	METAL CHIP	47K	5%	1/10W
		< SWITCH >			
S810	1-571-760-11	SWITCH, KEY BOARD (CD SYNCHRO)			
S814	1-571-760-11	SWITCH, KEY BOARD (DIRECTION)			
S816	1-571-760-11	SWITCH, KEY BOARD (REPEAT, FM MODE)			
S819	1-571-760-11	SWITCH, KEY BOARD (PLAY MODE, TUNING MODE)			
**********					
	1-681-807-11	LOADING BOARD			
		**********			
		< CONNECTOR >			
* CN1	1-568-943-11	PIN, CONNECTOR 5P			
		< SWITCH >			
S1	1-771-799-11	SWITCH, LEVER SLIDE (DISC TRAY OPEN/CLOSE DETECT)			
**********					
	A-4676-457-A	MAIN BOARD, COMPLETE (US, CND)			
	A-4676-466-A	MAIN BOARD, COMPLETE (MX)			
	A-4676-473-A	MAIN BOARD, COMPLETE (SP)			
	A-4728-254-A	MAIN BOARD, COMPLETE (AEP, UK)			
	A-4729-441-A	MAIN BOARD, COMPLETE (AUS)			
	A-4729-442-A	MAIN BOARD, COMPLETE (KR)			
	A-4729-443-A	MAIN BOARD, COMPLETE (TH)			
		**********			
	4-217-354-11	BUSHING, INSULATING			
	4-230-078-01	SCREW, +BV TAPPING			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S			
		< CAPACITOR >			
C101	1-126-963-11	ELECT	4.7uF	20%	50V
C102	1-126-963-11	ELECT	4.7uF	20%	50V
C103	1-126-163-11	ELECT	4.7uF	20%	50V
C104	1-126-963-11	ELECT	4.7uF	20%	50V
C106	1-126-163-11	ELECT	4.7uF	20%	50V
C107	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C108	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C109	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C110	1-126-963-11	ELECT	4.7uF	20%	50V
C111	1-115-156-11	CERAMIC CHIP	1uF		10V
C114	1-126-963-11	ELECT	4.7uF	20%	50V
C115	1-126-163-11	ELECT	4.7uF	20%	50V
C130	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C131	1-124-259-11	ELECT	4.7uF	20%	16V
C141	1-126-967-11	ELECT	47uF	20%	50V
C142	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C143	1-126-965-11	ELECT	22uF	20%	50V
C144	1-130-495-00	MYLAR	0.1uF	5%	50V
C145	1-130-495-00	MYLAR	0.1uF	5%	50V
C150	1-124-259-11	ELECT	4.7uF	20%	16V
C160	1-124-261-00	ELECT	10uF	20%	50V
C163	1-124-259-11	ELECT	4.7uF	20%	16V
C170	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (SP, AUS)
C170	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V (EXCEPT SP, AUS)
C201	1-126-963-11	ELECT	4.7uF	20%	50V
C202	1-126-963-11	ELECT	4.7uF	20%	50V
C203	1-126-963-11	ELECT	4.7uF	20%	50V
C204	1-126-963-11	ELECT	4.7uF	20%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C206	1-126-963-11	ELECT	4.7uF	20%	50V
C207	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C208	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C209	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C210	1-126-963-11	ELECT	4.7uF	20%	50V
C211	1-115-156-11	CERAMIC CHIP	1uF		10V
C214	1-126-963-11	ELECT	4.7uF	20%	50V
C215	1-126-163-11	ELECT	4.7uF	20%	50V
C230	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C231	1-124-259-11	ELECT	4.7uF	20%	16V
C241	1-126-967-11	ELECT	47uF	20%	50V
C242	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C243	1-126-965-11	ELECT	22uF	20%	50V
C244	1-130-495-00	MYLAR	0.1uF	5%	50V
C245	1-130-495-00	MYLAR	0.1uF	5%	50V
C250	1-124-259-11	ELECT	4.7uF	20%	16V
C260	1-124-261-00	ELECT	10uF	20%	50V
C263	1-124-259-11	ELECT	4.7uF	20%	16V
C270	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (SP, AUS)
C270	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V (EXCEPT SP, AUS)
C301	1-126-964-11	ELECT	10uF	20%	50V
C302	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C304	1-119-774-11	ELECT	100uF	20%	16V
C306	1-126-964-11	ELECT	10uF	20%	50V
C307	1-126-963-11	ELECT	4.7uF	20%	50V
C308	1-128-549-11	ELECT	3300uF	20%	35V
C309	1-128-549-11	ELECT	3300uF	20%	35V
C310	1-126-944-11	ELECT	3300uF	20%	25V
C311	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C312	1-126-176-11	ELECT	220uF	20%	10V
C313	1-104-665-11	ELECT	100uF	20%	10V
C315	1-104-665-11	ELECT	100uF	20%	10V
C316	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C317	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C318	1-126-964-11	ELECT	10uF	20%	50V
C319	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C320	1-126-176-11	ELECT	220uF	20%	10V
C321	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C322	1-126-935-11	ELECT	470uF	20%	16V
C323	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C324	1-126-935-11	ELECT	470uF	20%	16V
C326	1-124-261-00	ELECT	10uF	20%	50V
C327	1-126-935-11	ELECT	470uF	20%	16V
C328	1-126-933-11	ELECT	100uF	20%	16V
C329	1-126-935-11	ELECT	470uF	20%	16V
C330	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C331	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C332	1-126-176-11	ELECT	220uF	20%	10V
C333	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C334	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C335	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C339	1-126-934-11	ELECT	220uF	20%	16V
C346	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C347	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C348	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C350	1-126-963-11	ELECT	4.7uF	20%	50V
C351	1-126-963-11	ELECT	4.7uF	20%	50V
C360	1-126-947-11	ELECT	47uF	20%	35V
C365	1-126-934-11	ELECT	220uF	20%	10V
C366	1-126-964-11	ELECT	10uF	20%	50V
C368	1-126-176-11	ELECT	220uF	20%	10V
C369	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C370	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C371	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C372	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C376	1-119-774-11	ELECT	100uF	20%	16V
C380	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (AEP, UK)
C381	1-162-961-11	CERAMIC CHIP	330PF	10%	50V (AEP, UK)
C382	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (AEP, UK)
C383	1-162-924-11	CERAMIC CHIP	56PF	5%	50V (AEP, UK)
C384	1-164-380-11	CERAMIC CHIP	51PF	5%	50V (AEP, UK)
C385	1-126-947-11	ELECT	47uF	20%	35V (AEP, UK)
C386	1-164-739-11	CERAMIC CHIP	560PF	5%	50V (AEP, UK)
C387	1-126-963-11	ELECT	4.7uF	20%	50V (AEP, UK)

< CONNECTOR >

CN301	1-784-739-91	CONNECTOR, FFC 17P	
CN302	1-568-838-11	CONNECTOR, FFC 21P	
CN303	1-784-778-11	CONNECTOR, FFC 17P	
* CN304	1-568-943-11	PIN, CONNECTOR 5P	

< DIODE >

D302	8-719-200-82	DIODE	11ES2
D305	8-719-110-17	DIODE	RD10ESB2
D307	8-719-110-17	DIODE	RD10ESB2
D308	8-719-109-89	DIODE	RD5.6ESB2
D309	8-719-921-63	DIODE	MTZJ-7.5B
D310	8-719-109-89	DIODE	RD5.6ESB2
D311	8-719-110-31	DIODE	RD12ES-B2
D314	8-719-991-33	DIODE	1SS133T-77
D315	8-719-991-33	DIODE	1SS133T-77
D316	8-719-991-33	DIODE	1SS133T-77
D320	8-719-982-11	DIODE	MTZJ-4.3B (AEP, UK)

< IC >

IC101	8-759-584-38	IC	TDA7296
IC201	8-759-584-38	IC	TDA7296
IC304	8-759-646-54	IC	KIA7808API
IC306	8-759-646-54	IC	KIA7808API
IC323	8-759-669-03	IC	LC75342
IC324	8-759-359-49	IC	NJM3414AV (TE2)
IC326	8-759-557-36	IC	BU1924F-E2 (AEP, UK)

< RESISTOR >

JR101	1-216-864-11	METAL CHIP	0	5%	1/10W
JR201	1-216-864-11	METAL CHIP	0	5%	1/10W

MAIN

Ref. No.	Part No.	Description			Remark
JR301	1-216-864-11	METAL CHIP	0	5%	1/10W
JR302	1-216-864-11	METAL CHIP	0	5%	1/10W
JR303	1-216-864-11	METAL CHIP	0	5%	1/10W
JR304	1-216-864-11	METAL CHIP	0	5%	1/10W
JR306	1-216-864-11	METAL CHIP	0	5%	1/10W
JR307	1-216-864-11	METAL CHIP	0	5%	1/10W
JR308	1-216-864-11	METAL CHIP	0	5%	1/10W
JR309	1-216-864-11	METAL CHIP	0	5%	1/10W
JR310	1-216-864-11	METAL CHIP	0	5%	1/10W
JR311	1-216-864-11	METAL CHIP	0	5%	1/10W
JR312	1-216-864-11	METAL CHIP	0	5%	1/10W
JR340	1-216-864-11	METAL CHIP	0	5%	1/10W
		< COIL >			
L101	1-422-009-13	COIL, AIR-CORE			
L201	1-422-009-13	COIL, AIR-CORE			
L304	1-412-002-31	INDUCTOR CHIP	4.7uH		
		< TRANSISTOR >			
Q100	8-729-920-31	TRANSISTOR	DTC343TK		
Q200	8-729-920-31	TRANSISTOR	DTC343TK		
Q301	8-729-028-54	TRANSISTOR	KTC3205		
Q302	8-729-120-28	TRANSISTOR	2SC1623-L5L6 (AEP, UK)		
Q303	8-729-055-91	TRANSISTOR	SRA2202SF		
Q304	8-729-055-94	TRANSISTOR	SRC1202SF		
Q305	8-729-019-00	TRANSISTOR	2SD2394-D		
Q306	8-729-019-00	TRANSISTOR	2SD2394-D		
Q307	8-729-055-91	TRANSISTOR	SRA2202SF		
Q308	8-729-055-94	TRANSISTOR	SRC1202SF		
Q309	8-729-056-23	TRANSISTOR	STC352-OY		
Q310	8-729-036-89	TRANSISTOR	KTC3198GR-A		
Q311	8-729-036-89	TRANSISTOR	KTC3198GR-A		
Q312	8-729-055-91	TRANSISTOR	SRA2202SF		
Q313	8-729-055-94	TRANSISTOR	SRC1202SF		
Q330	8-729-055-94	TRANSISTOR	SRC1202SF		
Q341	8-729-202-56	TRANSISTOR	2SA950-Y		
Q342	8-729-202-56	TRANSISTOR	2SA950-Y		
Q343	8-729-055-94	TRANSISTOR	SRC1202SF		
Q344	8-729-055-94	TRANSISTOR	SRC1202SF		
Q355	8-729-019-00	TRANSISTOR	2SD2394-D		
Q406	8-729-920-31	TRANSISTOR	DTC343TK		
Q407	8-729-920-31	TRANSISTOR	DTC343TK		
Q408	8-729-920-31	TRANSISTOR	DTC343TK		
Q409	8-729-920-31	TRANSISTOR	DTC343TK		
		< RESISTOR >			
R101	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R102	1-216-821-11	METAL CHIP	1K	5%	1/10W
R103	1-216-833-11	METAL CHIP	10K	5%	1/10W
R104	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R105	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R106	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R107	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R108	1-247-871-11	CARBON	47K	5%	1/4W
R113	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R114	1-216-841-11	METAL CHIP	47K	5%	1/10W
R115	1-216-864-11	METAL CHIP	0	5%	1/10W
R118	1-216-821-11	METAL CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R120	1-216-849-11	METAL CHIP	220K	5%	1/10W
R121	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R122	1-216-833-11	METAL CHIP	10K	5%	1/10W
R123	1-216-833-11	METAL CHIP	10K	5%	1/10W
R130	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R131	1-216-841-11	METAL CHIP	47K	5%	1/10W
R140	1-216-818-11	METAL CHIP	560	5%	1/10W
R141	1-216-837-11	METAL CHIP	22K	5%	1/10W
R142	1-216-837-11	METAL CHIP	22K	5%	1/10W
R143	1-216-845-11	METAL CHIP	100K	5%	1/10W
R144	1-249-389-11	CARBON	4.7	5%	1/4W
R160	1-216-805-11	METAL CHIP	47	5%	1/10W
R161	1-216-805-11	METAL CHIP	47	5%	1/10W
R180	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R201	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R202	1-216-821-11	METAL CHIP	1K	5%	1/10W
R203	1-216-833-11	METAL CHIP	10K	5%	1/10W
R204	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R205	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R206	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R207	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R208	1-249-439-11	CARBON	68K	5%	1/4W
R213	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R214	1-216-841-11	METAL CHIP	47K	5%	1/10W
R215	1-216-864-11	METAL CHIP	0	5%	1/10W
R218	1-216-821-11	METAL CHIP	1K	5%	1/10W
R220	1-216-849-11	METAL CHIP	220K	5%	1/10W
R221	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R222	1-216-833-11	METAL CHIP	10K	5%	1/10W
R230	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R231	1-216-841-11	METAL CHIP	47K	5%	1/10W
R240	1-216-818-11	METAL CHIP	560	5%	1/10W
R241	1-216-837-11	METAL CHIP	22K	5%	1/10W
R242	1-216-837-11	METAL CHIP	22K	5%	1/10W
R243	1-216-845-11	METAL CHIP	100K	5%	1/10W
R244	1-249-389-11	CARBON	4.7	5%	1/4W
R260	1-216-805-11	METAL CHIP	47	5%	1/10W
R261	1-216-805-11	METAL CHIP	47	5%	1/10W
R280	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R304	1-216-809-11	METAL CHIP	100	5%	1/10W
R305	1-216-809-11	METAL CHIP	100	5%	1/10W
R307	1-216-833-11	METAL CHIP	10K	5%	1/10W
R309	1-216-821-11	METAL CHIP	1K	5%	1/10W
R310	1-216-809-11	METAL CHIP	100	5%	1/10W
R311	1-216-805-11	METAL CHIP	47	5%	1/10W
R312	1-216-821-11	METAL CHIP	1K	5%	1/10W
R313	1-216-841-11	METAL CHIP	47K	5%	1/10W
R314	1-216-809-11	METAL CHIP	100	5%	1/10W
R317	1-216-841-11	METAL CHIP	47K	5%	1/10W (AEP, UK)
R318	1-216-841-11	METAL CHIP	47K	5%	1/10W (AEP, UK)
R320	1-216-851-11	METAL CHIP	330K	5%	1/10W
R323	1-216-833-11	METAL CHIP	10K	5%	1/10W
R330	1-216-821-11	METAL CHIP	1K	5%	1/10W
R331	1-216-833-11	METAL CHIP	10K	5%	1/10W
R340	1-247-807-31	CARBON	100	5%	1/4W
R341	1-216-809-11	METAL CHIP	100	5%	1/10W

Ref. No.	Part No.	Description			Remark
R350	1-249-425-11	CARBON	4.7K	5%	1/4W
R364	1-216-805-11	METAL CHIP	47	5%	1/10W
R371	1-216-829-11	METAL CHIP	4.7K	5%	1/10W (AEP, UK)
R372	1-216-853-11	METAL CHIP	470K	5%	1/10W (AEP, UK)
R373	1-216-821-11	METAL CHIP	1K	5%	1/10W (AEP, UK)
R374	1-216-845-11	METAL CHIP	100K	5%	1/10W (AEP, UK)
R375	1-216-841-11	METAL CHIP	47K	5%	1/10W (AEP, UK)
R376	1-216-843-11	METAL CHIP	68K	5%	1/10W (AEP, UK)
R377	1-216-817-11	METAL CHIP	470	5%	1/10W (AEP, UK)
R383	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
		< TERMINAL BOARD/JACK >			
SJ301	1-816-048-11	TERMINAL BOARD (SPEAKER)			
SJ302	1-815-045-11	JACK, PIN 2P (AUDIO IN MD (VIDEO))			
		< TERMINAL BOARD >			
TH1	1-537-770-21	TERMINAL BOARD, GROUND			
TH2	1-537-770-21	TERMINAL BOARD, GROUND			
		< TUNER UNIT >			
TU1	A-4303-953-A	TUNER UNIT (TCB-023//K (CE))			(AEP, UK, KR, AUS)
TU1	A-4303-954-A	TUNER UNIT (TCB-023//K (UC))			(US, CND, MX, SP, TH)
		< VIBRATOR >			
X301	1-579-900-21	VIBRATOR, CRYSTAL (4.332MHz) (AEP, UK)			
**********					
	A-4676-455-A	POWER BOARD, COMPLETE (US, CND)			
	A-4676-464-A	POWER BOARD, COMPLETE (MX)			
	A-4676-471-A	POWER BOARD, COMPLETE (SP)			
	A-4728-252-A	POWER BOARD, COMPLETE			(AEP, UK, KR, TH, AUS)
		**********			
	1-533-313-11	HOLDER, FUSE			
		< CAPACITOR >			
C910	1-161-494-00	CERAMIC	0.022uF		25V
C911	1-126-947-11	ELECT	47uF	20%	35V
C917	1-126-934-11	ELECT	220uF	20%	16V
C918	1-126-964-11	ELECT	10uF	20%	50V
C920	1-104-666-11	ELECT	220uF	20%	25V
⚠C925	1-113-925-11	CERAMIC	0.01uF	20%	250V
		< CONNECTOR >			
* CN101	1-766-281-11	PIN, CONNECTOR (PC BOARD) 8P			
CN901	1-564-321-00	PIN, CONNECTOR 2P			
		< DIODE >			
D902	8-719-902-17	DIODE U15G			
D903	8-719-902-17	DIODE U15G			
D904	8-719-902-17	DIODE U15G			
D905	8-719-902-17	DIODE U15G			
D906	8-719-046-07	DIODE 2A02M			
D907	8-719-046-07	DIODE 2A02M			
D908	8-719-046-07	DIODE 2A02M			
D909	8-719-046-07	DIODE 2A02M			
D910	8-719-991-33	DIODE 1SS133T-77			
D911	8-719-991-33	DIODE 1SS133T-77			
D912	8-719-991-33	DIODE 1SS133T-77			
D913	8-719-991-33	DIODE 1SS133T-77			
D915	8-719-109-97	DIODE RD6.8ES-B2			
D917	8-719-991-33	DIODE 1SS133T-77			
D918	8-719-109-93	DIODE RD6.2ES-B2			
		< FUSE >			
⚠F901	1-533-445-11	FUSE, GLASS TUBE (DIA. 5) (0.8A/125V)			(US, CND, MX)
⚠F901	1-533-461-11	FUSE, GLASS TUBE (DIA. 5) (T0.4A/250V)			(AEP, UK, KR, TH, AUS)
⚠F902	1-533-464-11	FUSE, GLASS TUBE (DIA. 5) (0.8A/250V) (SP)			
⚠F903	1-533-461-11	FUSE, GLASS TUBE (DIA. 5) (0.4A/250V) (SP)			
⚠F904	1-533-468-11	FUSE, GLASS TUBE (DIA. 5) (T2A/250V)			(AEP, UK, SP, KR, TH, AUS)
⚠F904	1-576-478-11	FUSE, GLASS TUBE (2A/125V) (US, CND, MX)			
		< TERMINAL BOARD >			
G901	1-537-770-21	TERMINAL BOARD, GROUND (US, CND)			
		< LINE FILTER >			
⚠LF901	1-424-150-11	TRANSFORMER, LINE FILTER (US, CND)			
		< TRANSISTOR >			
Q901	8-729-056-23	TRANSISTOR	STC352-OY		
Q902	8-729-119-79	TRANSISTOR	2SC2785-FEK		
Q903	8-729-056-23	TRANSISTOR	STC352-OY		
		< RESISTOR >			
R902	1-249-425-11	CARBON	4.7K	5%	1/4W
R904	1-249-425-11	CARBON	4.7K	5%	1/4W
R905	1-249-437-11	CARBON	47K	5%	1/4W
⚠R909	1-219-237-11	SOLID	3.3M	20%	1/2W (US, CND)
R910	1-249-409-11	CARBON	220	5%	1/4W
		< RELAY >			
⚠RY901	1-755-332-11	RELAY			
		< SWITCH >			
⚠S901	1-786-152-11	SWITCH, SLIDE (VOLTAGE SELECTOR) (SP)			
		< TRANSFORMER >			
⚠T901	1-437-253-11	TRANSFORMER, POWER (SP)			
⚠T901	1-437-730-11	TRANSFORMER, POWER			(AEP, UK, KR, TH, AUS)
⚠T901	1-437-731-11	TRANSFORMER, POWER (US, CND, MX)			
⚠T902	1-437-727-11	TRANSFORMER, POWER			(AEP, UK, KR, TH, AUS)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

POWER SWITCH TC

Ref. No.	Part No.	Description			Remark
⚠T902	1-437-728-11	TRANSFORMER, POWER (SP)			
⚠T902	1-437-729-11	TRANSFORMER, POWER (US, CND, MX)			
**********					
	A-4728-250-A	SWITCH BOARD, COMPLETE (EXCEPT KR, TH)			
	A-4729-437-A	SWITCH BOARD, COMPLETE (KR, TH)			
		**********			
	4-217-319-21	PLATE, LCD LIGHT			
	4-235-354-01	CASE (REMOTE)			
	4-238-691-01	HOLDER (LCD)			
	4-238-692-01	SHEET (LCD)			
	4-240-434-01	SHEET (L) , ADHESIVE			
		< CAPACITOR >			
C821	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C822	1-124-259-11	ELECT	4.7uF	20%	16V
		< CONNECTOR >			
CN501	1-784-776-11	CONNECTOR, FFC 15P			
CN502	1-785-950-11	CONNECTOR, FFC/FPC 18P			
CN503	1-785-949-11	CONNECTOR, FFC/FPC 20P			
		< LED >			
D804	8-719-075-51	LED SELS6B14C-LF62 (LCD BACK LIGHT)			
D805	8-719-075-51	LED SELS6B14C-LF62 (LCD BACK LIGHT)			
D807	8-719-075-51	LED SELS6B14C-LF62 (LCD BACK LIGHT)			
D808	8-719-075-51	LED SELS6B14C-LF62 (LCD BACK LIGHT)			
D809	6-500-076-01	LED SLI-343YC (CD)			
D810	6-500-076-01	LED SLI-343YC (TUNER)			
D811	6-500-076-01	LED SLI-343YC (DSG)			
D812	6-500-076-01	LED SLI-343YC (TAPE)			
D813	8-719-074-42	LED SLR325VR-T31 (CD SYNCHRO)			
D814	8-719-074-42	LED SLR325VR-T31 (STANDBY)			
		< IC >			
IC802	8-759-827-70	IC NJL64H400A-1 (REMOTE CONTROL RECEIVER)			
		< RESISTOR >			
JR505	1-216-864-11	METAL CHIP	0	5%	1/10W
JR507	1-216-864-11	METAL CHIP	0	5%	1/10W
JR508	1-216-864-11	METAL CHIP	0	5%	1/10W
JR512	1-216-864-11	METAL CHIP	0	5%	1/10W
JR521	1-216-864-11	METAL CHIP	0	5%	1/10W
JR523	1-216-864-11	METAL CHIP	0	5%	1/10W
		< LIQUID CRYSTAL DISPLAY >			
LCD801	1-803-542-31	DISPLAY PANEL, LIQUID CRYSTAL			
		< TRANSISTOR >			
Q805	8-729-055-94	TRANSISTOR	SRC1202SF		
Q806	8-729-055-94	TRANSISTOR	SRC1202SF		
Q807	8-729-055-94	TRANSISTOR	SRC1202SF		
Q808	8-729-055-94	TRANSISTOR	SRC1202SF		
Q809	8-729-055-94	TRANSISTOR	SRC1202SF		
Q810	8-729-055-94	TRANSISTOR	SRC1202SF		
Q811	8-729-055-94	TRANSISTOR	SRC1202SF		

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R501	1-216-818-11	METAL CHIP	560	5%	1/10W
R502	1-216-818-11	METAL CHIP	560	5%	1/10W
R503	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R504	1-216-818-11	METAL CHIP	560	5%	1/10W
R505	1-216-818-11	METAL CHIP	560	5%	1/10W
R506	1-216-821-11	METAL CHIP	1K	5%	1/10W
R507	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R508	1-216-818-11	METAL CHIP	560	5%	1/10W
R512	1-216-821-11	METAL CHIP	1K	5%	1/10W
R513	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R514	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R516	1-216-821-11	METAL CHIP	1K	5%	1/10W
R517	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R518	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R519	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R520	1-216-833-11	METAL CHIP	10K	5%	1/10W
R521	1-216-837-11	METAL CHIP	22K	5%	1/10W
R522	1-216-821-11	METAL CHIP	1K	5%	1/10W
R523	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R524	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R525	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R526	1-216-833-11	METAL CHIP	10K	5%	1/10W
R527	1-216-837-11	METAL CHIP	22K	5%	1/10W
R528	1-216-841-11	METAL CHIP	47K	5%	1/10W
R532	1-249-409-11	CARBON	220	5%	1/4W
R533	1-249-409-11	CARBON	220	5%	1/4W
		< SWITCH >			
S801	1-786-220-11	SWITCH, KEY BOARD (⏏ CD)			
S802	1-786-220-11	SWITCH, KEY BOARD (TAPE ◄►)			
S803	1-571-760-11	SWITCH, KEY BOARD (I/⏻)			
S804	1-786-220-11	SWITCH, KEY BOARD (CD ❚❚)			
S805	1-786-220-11	SWITCH, KEY BOARD (TUNER FM)			
S806	1-571-760-11	SWITCH, KEY BOARD (FUNCTION)			
S807	1-786-220-11	SWITCH, KEY BOARD (CD ►)			
S808	1-571-760-11	SWITCH, KEY BOARD (DSG)			
S809	1-571-760-11	SWITCH, KEY BOARD (VOLUME –)			
S811	1-571-760-11	SWITCH, KEY BOARD (VOLUME +)			
S812	1-786-220-11	SWITCH, KEY BOARD (TAPE ❚❚)			
S813	1-571-760-11	SWITCH, KEY BOARD (■)			
S815	1-571-760-11	SWITCH, KEY BOARD (TUNING +, ►► ▷▷⏭)			
S817	1-786-220-11	SWITCH, KEY BOARD (● REC)			
S818	1-571-760-11	SWITCH, KEY BOARD (TUNING –, ⏮◁◁ ◄◄)			
S820	1-786-220-11	SWITCH, KEY BOARD (TUNER AM)			
**********					
	A-4728-263-A	TC BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C102	1-126-947-11	ELECT	47uF	20%	35V
C104	1-130-483-00	MYLAR	0.01uF	5%	50V
C105	1-126-960-11	ELECT	1uF	20%	50V
C106	1-126-964-11	ELECT	10uF	20%	50V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
C107	1-126-960-11	ELECT	1uF	20%	50V
C108	1-126-961-11	ELECT	2.2uF	20%	50V
C109	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C110	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C111	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C201	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C202	1-126-947-11	ELECT	47uF	20%	35V
C204	1-130-483-00	MYLAR	0.01uF	5%	50V
C205	1-126-960-11	ELECT	1uF	20%	50V
C206	1-126-964-11	ELECT	10uF	20%	50V
C207	1-126-960-11	ELECT	1uF	20%	50V
C208	1-126-961-11	ELECT	2.2uF	20%	50V
C209	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C210	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C211	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C400	1-126-964-11	ELECT	10uF	20%	50V
C401	1-126-933-11	ELECT	100uF	20%	16V
C402	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C403	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C407	1-126-965-11	ELECT	22uF	20%	50V
C410	1-126-960-11	ELECT	1uF	20%	50V
C422	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C432	1-136-967-11	MYLAR	0.012uF	5%	50V
C433	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C434	1-126-947-11	ELECT	47uF	20%	35V
C435	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C436	1-126-933-11	ELECT	100uF	20%	16V
C437	1-126-965-11	ELECT	22uF	20%	50V
		< CONNECTOR >			
CN301	1-784-778-11	CONNECTOR, FFC 17P			
CN302	1-691-040-31	CONNECTOR, FFC 8P			
		< DIODE >			
D401	8-719-988-61	DIODE 1SS355TE-17			
		< IC >			
IC401	6-701-655-01	IC HA12236F			
		< RESISTOR >			
JR102	1-216-864-11	METAL CHIP	0	5%	1/10W
JR103	1-216-864-11	METAL CHIP	0	5%	1/10W
JR104	1-216-821-11	METAL CHIP	1K	5%	1/10W
JR105	1-216-821-11	METAL CHIP	1K	5%	1/10W
JR106	1-216-864-11	METAL CHIP	0	5%	1/10W
JR201	1-216-864-11	METAL CHIP	0	5%	1/10W
		< TRANSISTOR >			
Q100	8-729-212-02	TRANSISTOR	2SC2120-T		
Q101	8-729-212-02	TRANSISTOR	2SC2120-T		
Q200	8-729-212-02	TRANSISTOR	2SC2120-T		
Q201	8-729-212-02	TRANSISTOR	2SC2120-T		
Q401	8-729-212-02	TRANSISTOR	2SC2120-T		
Q402	8-729-037-02	TRANSISTOR	KTA1266Y-AT		
Q403	8-729-038-67	TRANSISTOR	KRC102S		
Q404	8-759-068-54	TRANSISTOR	KRA102S		
Q405	8-729-038-71	TRANSISTOR	KRC107S		
		< RESISTOR >			
R101	1-216-841-11	METAL CHIP	47K	5%	1/10W
R102	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R103	1-216-833-11	METAL CHIP	10K	5%	1/10W
R104	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R105	1-216-841-11	METAL CHIP	47K	5%	1/10W
R106	1-216-833-11	METAL CHIP	10K	5%	1/10W
R107	1-216-833-11	METAL CHIP	10K	5%	1/10W
R108	1-216-833-11	METAL CHIP	10K	5%	1/10W
R109	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R111	1-216-833-11	METAL CHIP	10K	5%	1/10W
R112	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R113	1-216-797-11	METAL CHIP	10	5%	1/10W
R201	1-216-841-11	METAL CHIP	47K	5%	1/10W
R202	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R203	1-216-833-11	METAL CHIP	10K	5%	1/10W
R204	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R205	1-216-841-11	METAL CHIP	47K	5%	1/10W
R206	1-216-833-11	METAL CHIP	10K	5%	1/10W
R207	1-216-833-11	METAL CHIP	10K	5%	1/10W
R208	1-216-833-11	METAL CHIP	10K	5%	1/10W
R209	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R211	1-216-833-11	METAL CHIP	10K	5%	1/10W
R212	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R213	1-216-797-11	METAL CHIP	10	5%	1/10W
R400	1-218-446-11	METAL CHIP	1	5%	1/10W
R401	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R402	1-216-797-11	METAL CHIP	10	5%	1/10W
R403	1-216-805-11	METAL CHIP	47	5%	1/10W
R404	1-216-833-11	METAL CHIP	10K	5%	1/10W
R405	1-216-797-11	METAL CHIP	10	5%	1/10W
R406	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R407	1-216-841-11	METAL CHIP	47K	5%	1/10W
R408	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R409	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R410	1-216-833-11	METAL CHIP	10K	5%	1/10W
R411	1-216-841-11	METAL CHIP	47K	5%	1/10W
R412	1-216-833-11	METAL CHIP	10K	5%	1/10W
R413	1-216-857-11	METAL CHIP	1M	5%	1/10W
R414	1-216-803-11	METAL CHIP	33	5%	1/10W
R415	1-216-841-11	METAL CHIP	47K	5%	1/10W
R416	1-216-821-11	METAL CHIP	1K	5%	1/10W
R417	1-218-725-11	RES-CHIP	24K	5%	1/10W
R418	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R422	1-216-833-11	METAL CHIP	10K	5%	1/10W
R423	1-216-837-11	METAL CHIP	22K	5%	1/10W
R424	1-216-841-11	METAL CHIP	47K	5%	1/10W
R425	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R426	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R428	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-225-282-21	RES, ADJ, CARBON 33K			
RV201	1-225-282-21	RES, ADJ, CARBON 33K			

TC **VIDEO**

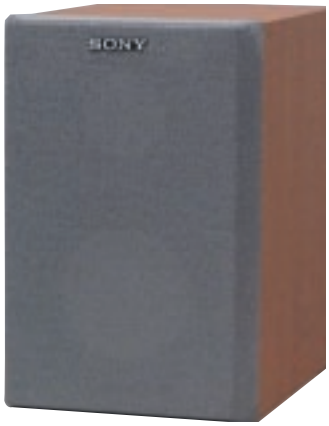
Ref. No.	Part No.	Description	Remark
		< COIL/TRANSFORMER >	
T101	1-419-080-11	COIL	
T201	1-419-080-11	COIL	
T401	1-433-372-31	TRANSFORMER, BIAS OSCILLATION	
		< TERMINAL BOARD >	
TH1	1-537-770-21	TERMINAL BOARD, GROUND	
TH2	1-537-770-21	TERMINAL BOARD, GROUND	
TH3	1-537-770-21	TERMINAL BOARD, GROUND	
**********			
	1-684-235-11	VIDEO BOARD	
		**********	
		< IC >	
IC321	8-749-923-04	IC TOTX178A (OPTICAL DIGITAL OUT (CD))	
**********			
		MISCELLANEOUS	
		**********	
2	1-823-149-11	LEAD (WITH CONNECTOR)	
58	1-926-063-20	FFC CABLE 20P	
59	1-926-063-10	FFC CABLE 18P	
60	1-926-065-20	FFC CABLE 15P	
102	1-796-353-11	DECK, MECHANICAL (TAPE)	
109	1-773-044-11	WIRE (FLAT TYPE) (17 CORE)	
110	1-926-062-30	FFC CABLE 8P	
157	1-926-063-50	FFC CABLE 21P	
158	1-926-063-40	FFC CABLE 17P	
202	1-684-233-11	POWER RETAINER BOARD	
⚠204	1-558-943-31	CORD, POWER (TH)	
⚠204	1-696-169-11	CORD, POWER (AEP, UK, SP)	
⚠204	1-696-848-41	CORD, POWER (AUS)	
⚠204	1-769-079-21	CORD, POWER (KR)	
⚠204	1-775-789-81	CORD, POWER (MX)	
⚠204	1-783-532-11	CORD, POWER (US, CND)	
513	1-792-411-11	CABLE, FLEXIBLE FLAT (19 CORE)	
⚠553	A-4735-357-A	OP BASE ASSY (KSM-213DHAP/ZRP1)	
555	1-757-055-11	WIRE, PARALLEL (FFC) (16 CORE)	
M901	A-2004-893-A	MOTOR (LD) ASSY (LOADING)	
**********			
		ACCESSORIES	
		**********	
⚠	1-770-019-51	ADAPTOR, CONVERSION PLUG (UK)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SS-CM70

SERVICE MANUAL

Ver 1.0 2002.02



US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

- SS-CM70 is the speaker system in CMT-M70/M70K.

SPECIFICATIONS

Speaker system	Two-way, bass reflex system
Speaker units	10 cm dia., cone type woofer 2.5 cm dia., semi-dome-type tweeter
Rated impedance	6 ohms
Dimensions (w/h/d)	Approx. 140 × 217 × 222 mm
Mass	Approx. 2.2 kg net per speaker

Design and specifications are subject to change without notice.

PARTS LIST

Part No.	Description	Remark
A-4735-807-A	SPEAKER ASSY (SILVER)	
A-4746-459-A	SPEAKER ASSY (WHITE)	
A-4746-460-A	SPEAKER ASSY (BLACK)	

SPEAKER SYSTEM

9-873-596-01
2002B0500-1
© 2002.02

Sony Corporation
Home Audio Company
Published by Sony Engineering Corporation

SONY®

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2002.02	New